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THE MAGAZINE FOR FLEET OPERATORS

JUNE 1942



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April 29, 1942

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By: *Clarence Smith*
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JUNE, 1942

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INTERNATIONAL SERVICE

New Order to Top 3, 4, 5 & 6

JUST before this issue went to press it was learned that a new conservation order was in the works at the Office of Defense Transportation that would make Orders 3, 4, 5 and 6 look like harmless suggestions by comparison.

The order, prepared by the recently created ODT Division of Transport Conservation (John R. Turney director), has been the subject of intense discussion by Federal agencies. The order is a "hot potato" politically and, we understand, the President has taken an interest to the extent of calling a conference about it. All we have been able to gather are a few conversational crumbs. The order covers all passenger cars, trucks, buses and taxicabs. It provides for the rationing of gas on a mileage allotment basis. The basic allowable mileage for all vehicles is 2880 miles per year, which carries an allotment of 192 gallons of gasoline. That assumes 15 miles to the gallon. Each vehicle owner would have to fill out lengthy questionnaires, certifying the annual mileage travelled by the vehicle and the extent to which conservation of mileage has been effected.

These questionnaires would be analyzed to determine the extent to which the basic allowable mileage should be increased and the amount of gasoline that should be allotted. In the case of I.C.C. regulated carriers this determination would be made by I.C.C. employees, and in the case of all other vehicle owners by local rationing boards under the jurisdiction of OPA. The order also contains a "Preference List" which, in outline, resembles the "Usage Classification List" applying to truck rationing, but which in detail is far more exhaustive because preferences are identified with commodities. The order, if ap-



WASHINGTON RUNAROUND

New Order to Top 3, 4, 5, & 6 . . . What Will Congressmen Do? . . . No Postponement of Orders . . . Truck Rations Dwindling? . . . Used Truck Price Ceiling . . . "Preventive Inventory" on Parts . . . ODT Seeks Deferments . . . Operators Have the ODT's . . . WPB Blackout Lights . . . "Consultants" Redefined . . . Dealer Subterfuge Illegal . . . New Tire Quota Up . . . Amendments to ODT Orders

by **GEORGE T. HOOK**, Editor

proved, would become effective nation-wide on July 1, the date the present temporary gas rationing in certain areas expires. There were indications that, even if approved, the

order would not become effective July 1 because the administrative machinery could not be set up by that time.

(TURN TO PAGE 18, PLEASE)



WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 17)

What Will Congressmen Do?

A Congressional storm is almost certain to develop if the new order is made public. At the moment of writing Congressmen from the non-rationed states are opposing extension of gas rationing to their bailiwicks and filling the Congressional Record with remarks that will make good reelection ammunition. Their argument is that where there is an ample supply of gasoline there should be no rationing. They do not go for the argument that gas should be rationed in order to conserve tires. The President himself was represented in reports of press conferences as being of the opinion that there was no cause for alarm and that American ingenuity would provide some substitute for rubber tires.

No Postponement of Orders

Many operators have been of the belief that because of the severity of

Conservation Orders 3, 4, 5 and 6 there would be a postponement of the June 1 effective date in order to give them ample time to arrange compliance. We have been told authoritatively that there will be no postponement. There will, however, be amendments modifying the orders. The return load provision will be postponed to July 1. (See p. 168.)

Truck Rations Dwindling

The latest figures on truck rationing are as follows: As of May 23 the Allocations Section of ODT had approved to WPB the release of 12,620 power units to civilian users and 1931 trailers; WPB had authorized the release of 18,000 power units and 721 trailers to government-exempt agencies. The Allocations Section is now averaging 500 civilian truck releases a day. If that average is maintained the ration pool will be practically exhausted by the end of the year. In fact another development may exhaust the pool for civilian users long before that time. This development is in the form of an unofficial report that ODT has been asked by WPB to proceed with allocations on the assumption that from May 23 on only about 60,000 trucks will be available for civilian users. The rest of the pool would be ear-marked for government-exempt agencies. It remains a mystery, even among the better informed bureaucrats, why such government agencies as the Army, Navy and Lease-Lend should continue to raid the truck ration pool when they continue to enjoy the privilege of or-

dering the manufacture of new trucks in any quantity that they need. The practice is considered so unfair to civilian users that a move is on foot to effect a plan whereby the government-exempt agencies could draw upon the truck ration pool in emergencies but automatically order the manufacture of a similar vehicle to be put back into the ration pool.

Used Truck Price Ceiling

In response to complaints from operators that unjustifiably high prices are being asked by the trade and by users for used trucks and trailers, the Allocations Section of ODT is conducting a study to determine if a price ceiling should be placed on used trucks and trailers. The complaints are coming from operators who are trying to live up to the ODT requirement that used trucks or trailers be acquired before application is made for a new truck or trailer. ODT recognizes its responsibility to these operators and also realizes how complex a job it would have on its hands if it set out to put a ceiling on prices.



When Army equipment, no matter how big or heavy, gets into mud or ditch trouble huge six-wheeled Mack wreckers like this one are called upon to salvage them. Some baby, eh?

CCJ



QUIZ

by ROBERT F. BAHL

(Correct answers on page 167)

For the second time within a generation America is engaged in total war. In the present conflict trucks are playing a vital rôle both on the battle front and on the home front. But—time being such a fleeting thing—let's see how much you know about the part trucks played in World War I. Test your memory by answering these ten quiz questions. Give yourself a

credit of ten points for each correct answer.

1.

In World War I, the great multiplicity of motor truck models gave way to one standard military truck. This standardized truck for Army service was known as the . . .

- a. Liberty Truck
- b. Victory Truck
- c. Doughboy Truck
- d. Yankee Truck

2.

The defeat of the Germans in which of these major battles is credited just about 100 per cent to the use of motor trucks by the Allies?

- a. Ypres
- b. Verdun
- c. Aix-la-Chapelle
- d. Argonne Forest

3.

Civilians in 1917-18 needed to concern themselves more over horse feed than rubber tires. Nevertheless, before the war was over, the War Industries Board did enact a ruling . . .

- a. prohibiting the manufacture of solid tires
- b. reducing styles and sizes of auto tires from 287 to 9

"Preventive Inventory" on Parts

In an effort to prevent a shortage of functional replacement parts the ODT has worked out an inventory reporting system in which truck manufacturers and independent parts manufacturers will participate. When inventory of a certain part approaches the danger point ODT will report the fact to the WPB and request that adequate material be allocated to the manufacturers to replenish the supply. So far operators have not been aware of any serious shortage of replacement parts but manufacturers are reporting that a dangerous situation impends because of the difficulty of procuring materials on the priority accorded replacement parts. This priority was recently raised from A-3 to A-2 but, speaking from experience, manufacturers say that even the A-2 is not good enough to "Keep 'Em Rolling."

ODT Seeks Deferments

Heretofore chiefly concerned with the supply and conservation of equipment the ODT is now concerning



U. S. Rubber serves the Army best when the Army services a U.S.R. tire according to accepted tire etiquette. A portable compressor is shown being used to renew pressure

itself with an adequate supply of manpower for highway transportation. The ODT's Division of Transport Personnel, it is understood, will ask the Selective Service Board for assistance in relieving personnel shortages in the trucking industry by giving deferment to certain of the vitally important occupational groups. The eligibility of certain transport workers for deferment is assumed in the intended deferment of workers held essential to the war effort.

Operators Have the ODT's

The recent compulsory conservation Orders 3, 4, 5 and 6 have given many truck operators a mild case of delirium tremens—you might call them the "ODT's." The serious effect which some operators think the orders will have on motor transport may be judged by the fact that in his current speaking tour of the nation ODT Motor Transport Director John Rogers is finding it necessary to reassure operators that "the purpose of the orders is not to put trucks off the road and not to favor any other form of transportation but to keep trucks on the road in the face of the rubber shortage."

WPB Blackout Lights

The latest news about blackout lights for civilian trucks is that the Army has finished its experimental work and that the War Department has okayed the design and the specifications of the blackout kit consisting of front marker lights, rear marker and stop lights and front



A Crosley "bull pup" is shown being loaded into the fuselage of a Douglas transport plane for a trip to the Marine Air Corps station at Quantico, Va., for a test spell

headlights. What happens from now on will depend upon the War Production Board. The War Department sees no reason to announce the specifications of the lights and to authorize their manufacture until the WPB gives assurance that the materials—some of them critical—needed in manufacture will be made available. The front marker lights will also serve as identification lights, we are told. A white gleam will identify an army truck and an amber gleam the civilian truck. Other colors may be used to identify the vehicles of Civilian Defense Agencies.

"Consultants" Redefined

They aren't touchy about it, but the ODT and WPB automotive consultants are aware that some of the recalcitrant brothers from out of town prefer to call them "insultants."

Dealer Subterfuge Illegal

Mention was made several issues
(TURN TO PAGE 168, PLEASE)

- c. requiring that an old tire be turned in for every new one purchased

4.

Henry Ford will be remembered in this war for his Willow Run bomber plant, but in World War I his name was associated with . . .

- a. leadership of the War Industries Board
- b. the "peace ship" Oscar II
- c. the record production of recoil mechanisms
- d. the greatest of the war strikes

5.

The war caused one of the pioneers of the automotive industry to abandon the passenger car field in order to specialize in trucks only. Name the company . . .

- a. Mack
- b. Reo
- c. Autocar
- d. White

6.

Now, tell us which of these present-day leaders in the field went the other way and gave up trucks to concentrate on passenger cars during World War I?

- a. Cadillac
- b. Buick
- c. Packard
- d. Nash

7.

The shot had hardly been fired at Sarajevo before America was shipping trucks to the warring nations. In the first year of the war—from Aug. 1, 1914, to Aug. 1, 1915—the U. S. exported to the Allies . . .

- a. 508 trucks
- b. 2,499 trucks
- c. 6,250 trucks
- d. 16,415 trucks

8.

In the last war, the U. S. Army had to be "sold" on the value of motor trucks. Which of these events or happenings was the "salesman"?

- a. the fate of Belgium
- b. the invention of the pneumatic tire
- c. an epidemic of dysentery among Army mules
- d. the expedition against Pancho Villa in Mexico

9.

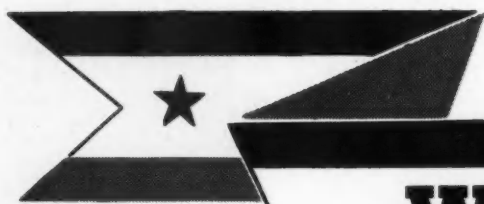
Which of our allies, at one point during the war, prohibited the importation of American trucks?

- a. England
- b. France
- c. Russia
- d. Italy

10.

The famed bus service of Paris came to an end at the outbreak of the war. Practically all the buses were commandeered and converted into . . .

- a. ambulances
- b. meat trucks
- c. refugee vans
- d. ammunition wagons



WARTIME MOTOR

MEETING for the first time under wartime conditions representatives of for-hire trucking operations from many sections of the country convened in Chicago on May 18, 19 and 20 under the auspices of the Safety & Operations Section of the American Trucking Associations, Inc., and discussed problems raised by those conditions.

John V. Lawrence, general manager of A.T.A., said that four big problems confronted the trucking industry: gasoline, equipment replacement, procurement of parts and operating supplies, and tires. Other speakers subsequently added the personnel problem and the problem of insuring against excess losses incidental to the handling of war material.

Although trucks are not now being rationed on gasoline, Mr. Lawrence indicated that when general gas rationing begins, as anticipated, on July 1 motor trucks may be given mileage allotments and that such allotments would govern their supply of gasoline. He did not give any details of this plan.

The parts and supplies problem is not serious, Mr. Lawrence admitted, saying that there has been a willingness in Washington to furnish enough parts to keep trucks moving. Some difficulties are being experienced by operators, he said, in procuring canvas tarpaulins, which the army uses in great quantities; metal sheets for repairing trailer bodies; springs and shackles, certain types of transmissions, gaskets and spark plugs. To make certain that trucks are kept rolling Mr. Lawrence declared that in about two weeks trucks may be

For-hire operators convene at the ATA Safety and Operations Section Meeting in Chicago and discuss major problems confronting the trucking industry: gasoline, equipment replacement, procurement of parts and operating supplies, tires, personnel turnover

given something like an A-1 priority for the purchase of parts needed to make emergency repairs and to maintain an emergency repair parts inventory, and an A-10 priority for less critical items. No such priorities have been granted to date because it has been assumed by the War Production Board that there is an ample supply of parts and consequently no need to accord any group a preferential status.

On the subject of tires, Mr. Lawrence reassured operators that reports of a rubber shortage were only too true, and that they should lay awake nights, if necessary, to figure out how rubber now on hand could be stretched to last longer.

H. H. Kelly, chief of the Allocations Section of the Office of Defense Transportation, gave a report on truck rationing and touched on ODT's interest in the parts situation. Regarding the latter, he said that ODT had just worked out a plan whereby truck makers and independent parts makers would report the

parts items that are getting low and thus furnish ODT with information that would permit it to go to the War Production Board and petition for the release of materials that would make it possible to restock the parts bins that are getting low. ODT expected to receive its first report on parts from manufacturers by the end of May.

Reporting on truck rationing, Mr. Kelly said that in the first two months of rationing about 12,000 trucks and truck tractors had been released to civilians and about 16,000 had been released to government exempt agencies—army, lease-lend, etc. The government-exempt applications are decreasing, he said, and in addition they are being subjected to increased scrutiny before being granted. The Allocations Section, according to Mr. Kelly, is now sending to WPB an average of 500 approved applications a day for civilian use.

In the same two months 1500 trailers have been released to civilian users. In proportion to the number

CARRIER PROBLEMS

of power units released, this is about twice the normal ratio.

Mr. Kelly said the Allocations Section was struck by the number of careless and incomplete statements made in the applications. The appeals which follow rejections, he said, usually made out a much better case than the original applications. For this reason the Local Allocations Office that rejected the original application is now being given a look at the appeal before it goes to the Appeal Board, and if the appeal arguments justify a change in the original decision LAO may notify ODT.

Mr. Kelly expressed disappointment that many applications were asking for replacement of vehicles just as if times were normal. Some of the vehicles whose replacement was sought, he said, were low mileage vehicles. He declared that today operators must make use even of vehicles which under normal conditions could be said to have reached the limit of economical usefulness.

More thought must be given, according to Mr. Kelly, to the conversion of medium trucks in the rationing pool so that they may be used as tractors and, when used with trailers, take the place of heavy trucks which are being requested in applications. He urged this because there are only 6000 heavy trucks left in the rationing pool. Of the 10,000 which were in the pool originally, 2000 have been released to civilians and another 2000 to government-exempt agencies.

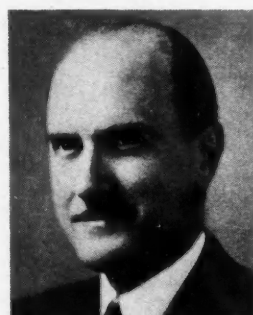
Commenting on the discussion of truck rationing published in the May issue of *COMMERCIAL CAR JOURNAL*,
(TURN TO PAGE 158, PLEASE)



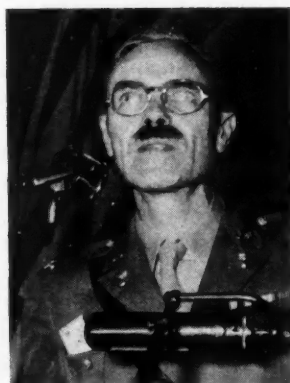
Morgan B. Speir, Jr., Horton Motor Lines, Charlotte, N.C., discussed personnel matters



W. Robert Smith, Gen. Mgr. of Pennsylvania Truck Lines, Inc., spoke about drivers



H. H. Kelly, Chief of Allocations Section, ODT, reported on truck rationing problems



Colonel A. B. Johnson, Army Ordnance, spoke on "Precautions in Transportation of Munitions"



Lieut. E. B. Foster, Army Engineers, discussed "Blackout Lighting" and regulation problems



TRUCKS ARE VITAL



J. B. Eastman

MUCH has been said—in fact I have said much myself — about the fine work that the railroads have done and are doing to meet the transportation needs of the war. Not so much has been said about trucks, and you may have felt a bit like step-children on that account. I welcome this opportunity to make good that deficiency, and also to talk with you frankly about the future. You know only too well that the future is none too bright for all means of transpor-

* Paper delivered at the ATA Safety & Operations Section spring meeting, Chicago, May 19, 1942.

tation that are dependent on rubber tires.

This country has gone through a revolution in transportation in the last 20 or 30 years, and the highway automotive vehicle running on rubber tires has been responsible for that revolution. We surpass every other nation on earth, and probably all of them put together, in the use of such vehicles, and they have wrought great changes in our economy, in our industry, and in the distribution of our population. These changes hit the railroads hard, particularly in the years of business depression, when there was a great surplus in the supply of transportation facilities compared with the demand. They regarded the highway vehicles as their natural enemies, and

SALVAGING TRUCK



Robert Cass

MY purpose is to analyze what the engineering departments of the truck manufacturers can do and also what they can tell truck operators which may be of help in enabling them to prolong the life of any wearing part in their vehicles.

From the engineer's point of view there are several fundamentals that must be emphasized. These may be classified as load and speed; i. e. loading per square inch of the wearing parts and rate of movement of those parts. There is a further very important item that we will also have

to consider and that is the part which the driver can play in still further prolonging vehicle life after the first two fundamentals have been brought under control.

When we come to the discussion of loads, there probably have been, in the past, economic reasons justifying a certain degree of overloading and the cost of such overloading was not serious as the parts which were affected by such loading could be easily replaced. Today in a world in which money has ceased to have its usual importance, that is no longer true. Today material is the standard of value that exists everywhere. Under these circumstances the economics have changed and the situation calls for a reappraisal on your part of the entire business of trucking in relation to how long the equipment can be usefully employed. At the present

* Paper delivered at the ATA Safety & Operations Section spring meeting, Chicago, May 19, 1942.

TO VICTORY

waged a bitter fight against them in various and diverse ways.

At the same time, notwithstanding this bitterness, the railroads came to see that the truck and the bus could be used to play a very helpful part in their own operations, and the fact is that they are now so using these vehicles very extensively. For many short hauls the truck is a much more flexible and efficient means of operation than the freight car dependent on rails and a locomotive, and all over the country the railroads are now using trucks in great numbers in various kinds of terminal operations and also as a substitute for the old-way freight service.

When this country embarked upon a huge defense production program, which was followed by a gigantic war

ODT Director Eastman reviews the role trucks are destined to play in victory transportation and reassures fleet operators that economic limit of trucks will not be arbitrarily or hastily restricted

by JOSEPH B. EASTMAN*

Director, Office of Defense Transportation

production program, the surplus of transportation facilities which we all had been talking about in the years of depression soon became non-existent. Our transportation problem has been completely reversed. No longer is it a matter of adjusting a great excess of supply to a much smaller demand. On the contrary the problem is to stretch out the supply by every possible device of more effi-

cient use which can be brought into play to meet a demand which is already close to capacity and is rapidly mounting. In such circumstances the truck has become, and whether or not they realize it, an ally of the railroads rather than an enemy.

Last year the railroads carried an all-time record of ton-miles of freight with one-third less freight
(TURN TO PAGE 114, PLEASE)

MILEAGE

time it may be safe to say that there is no such thing as permissible overloading. The only safe measure for you to operate on until this situation stabilizes itself is to take the engineering departments' ratings as your bible, and even some of those may call for a reappraisal in some part of the truck operating units.

These facts are not new to operators as they have all been generally known for some time, but it is only now that their appreciation has become vital. A typical illustration would be of the wheel bearings in your axles—this would also apply to any similar type bearing that is elsewhere employed in the vehicle. By and large an axle rating of any given amount allows for a wheel bearing load that would meet the bearing manufacturers' recommendations 100 per cent. In the case of some ve-

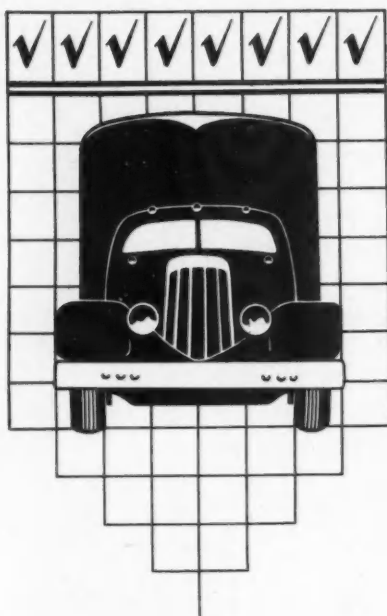
The effect of load and speed on parts wear and tear and the role drivers play in prolonging lives of trucks are first fundamentals to be brought under control when planning truck mileage salvaging

by ROBERT CASS*

Chief Engineer, White Motor Co.

hicles, oversize bearings are used that call for even lighter loading for bearings than the manufacturer would be willing to allow. But if we take 100 per cent as the loading and then proceed to overload the bearing, we begin to see how important the overload can be. If, for instance, an overloading of 20 per cent an axle called for a proportionally 20 per cent reduction in life, that might be an amount in normal times not to be regarded

too seriously. Unfortunately, that is not the case now and such an overload occasions the reduction in life of any such overloaded bearing of almost 50 per cent. If at 100 per cent rating, the bearing has an expected life of 3000 hours, on the 20 per cent overload basis the expected life is only 1600 hours. Conversely, if the bearing is underloaded 20 per cent, the life expectancy is increased
(TURN TO PAGE 130, PLEASE)



M D - 27 DRIVER'S TRIP REPORT Report No.

TRUCK NO. 367 FROM Gahville N.C.
 TRAILER NO. 260 LICENSE NO. 5-9047 TO N.C. Direction

DATE	TIME	Driver In Charge	Driver
OUT 1-6-42	6:00 PM	H. C. Johnson	C. J. Paris
IN 1-11-42	3:00 AM		
Total Days 4 1/2	Meter Start 82123	Meter Return 93619	Meter Mileage 1496

GAS STATION	Gals.	Per Gall.	Cash	Charge	Total
Gahville N.C.	40				
Synchburg, Va.	49				
Washington, D.C.	40				
" "	49				
" "	68				
OIL: Gts. Used	TOTAL 286				

DELIVERIES	ROUTE IN	ROUTE OUT	No.	PICK UPS	ROUTE IN	ROUTE OUT	No.
J. J. Forwarding			1				

No. of Deliveries 48 hrs. in N.C. No. of Pick Ups 48 Total D & F \$6.00
 TOTAL HOURS 48 TOTAL \$6.00

Cash Advanced from N.Y.C. Office \$10.00
 Cash Advanced from Gahville N.C. \$20.00
 Office Use \$2.80 TOTAL \$30.80

Code 4262 Driver's Expense Account Tolls \$2.80 Office Use

Adv. to Driver C. J. Paris 13.60
 Adv. to Driver H. C. Johnson 13.60
 in charge

2464-01 Days @ \$1.00 for expense
 4264-01 Days @ \$1.00 for expense TOTAL \$30.80

CODE NO.	NAME	MILES	CODE NO.	NAME	MILES

Wages
 Less: Net Advance
 Balance Due

The driver's trip report (shown above) reveals amount of responsibility M&D men are given

STIFF DRIVER-CHECKS STAFF M & D TRUCKS

Investigations, special driving tests, trial trips and probationary employment are some hurdles M&D drivers must clear

by I. N. TAYLOR

Supervisor of Drivers, Mason & Dixon Lines, Inc., Kingsport, Tenn.



I. N. Taylor

MEET a typical over-the-road driver for the Mason and Dixon Lines, Inc. He is 25 years old; weighs 150 lb.; is 5 ft. 10 in. tall; has perfect health; is married; has two children, and has been in our employ for three years. Before becoming associated with us he had more than 50,000

THE MASON & DIXON LINES, INC.

TRIAL TRIP REPORT. Mr. _____ will accompany driver _____ on trial trip run as follows, observing and tallying all of his actions in appropriate spaces below.

From: _____ To: _____ and return. Hours: _____ Miles: _____ Date: _____

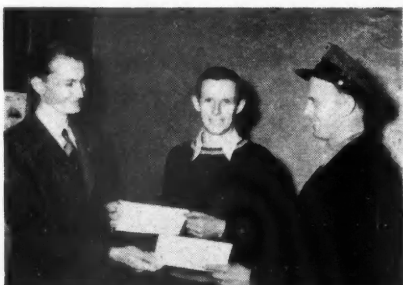
ACTION	Correct Safe Adequate	Incorrect Unsafe Inadequate	ACTION	Correct Safe Adequate	Incorrect Unsafe Inadequate		Correct Safe Adequate	Incorrect Unsafe Inadequate
<u>INSPECTION</u>			<u>OPEN HIGHWAY</u>			<u>USE OF BRAKES</u>		
Preliminary			Keeping Right			Frequent Testing		
En Route			Steady Speed			Proper Application		
Cleaning Lights			Attention Road Signs			Unit Under Control		
<u>TURNING</u>			<u>PASSING</u>			<u>CONTROL OF SPEED</u>		
Proper Lane			Signalling - Horn			Business District		
Hand & Direc. Signals			Judgment of Clearance			Residential District		
Way Clear			Way Clear			School Zone		
Slowing			<u>BEING PASSED</u>			R. H. Crossing		
<u>BACKING, PARKING</u>			Keeping right			Observance Ins. Limit		
Way Clear			No speed-up			Other Langer Points		
Obedient Watcher			<u>INTERSECTIONS</u>			<u>COURTESY</u>		
Cautious			Slowing			To Other drivers		
<u>PULLING OUT</u>			Giving Way			To Pedestrians		
Way Clear			Observing Traffic			To Customers		
Signalling			Signs			<u>HIGHWAY EMERGENCIES</u>		
<u>SLOWING, STOPPING</u>			<u>WHEN STOPPED</u>			Reaction		
Signalling			Cut Ignition			Cool Head		
Other Precautions			Set brakes			<u>LOADING</u>		
<u>BEAM DEFLECTED</u>			Leave in Gear			Recording Activities		
Approaching Vehicle 500 ft away			Block Wheels			<u>CONDUCT</u>		
<u>UP GRADE</u>			<u>CARE DURING FUELING</u>			At stops		
Proper Gear			No smoking			At Lay-over		
Proper Lane			Cleaning Lights			Sleep and Rest		
<u>DOWN GRADE</u>			Equipment Inspection			<u>HANDLING FREIGHT</u>		
Proper Gear			<u>CARE OF EQUIPMENT</u>			Checking with Billing		
<u>CURVES</u>			Reap Motor			Loading and Storing		
Right of Center Lane			Speed on Rough Road			Care of WayBills		
Slowing						Checking Seals		

GENERAL IMPRESSION: Poor _____ Fair _____ Good _____ Excellent _____

In your opinion, is this man qualified to properly handle a truck? Answer: Yes _____ No _____

Signed _____ Instructor Driver

This is the trial trip report which is M&D drivers' hardest driving test. Note the check items used to judge a man's driving skill



M&D drivers are awarded bonuses for making helpful suggestions adopted by the company



E. W. King, president of M&D, presents drivers with special awards for safety records

miles of truck driving experience, but none of it as an employee of other motor carriers. During his association with us he had hauled 6,000,000 lb. of motor freight over 253,500 miles of highway; has been involved in two accidents, for only one of which he was in any way at fault, and he is a sober, hard-working, dependable citizen.

Shippers, consignees and others who come in contact with our drivers often ask where we find such good

men, how we train them, and what means we use to secure their wholehearted cooperation. We are glad, therefore, to have the opportunity of explaining our methods to the readers of COMMERCIAL CAR JOURNAL.

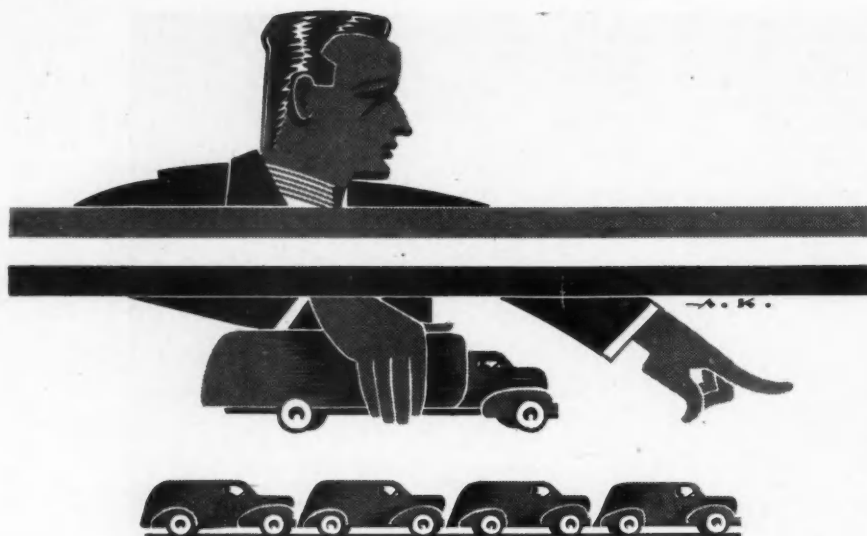
It is the policy of the Mason and Dixon Lines to recruit drivers from within a radius of fifty miles, or less, of Kingsport, Tenn. The majority of our better drivers have been selected from the ranks of the employees of county and state highway

departments. A few of our drivers are young men from nearby farms, while others come from the various small industries in and near Kingsport.

Seldom do we employ a driver who has ever driven for other motor carriers. Experienced drivers for other motor carriers might, we fear, resent the fact that they would have to pass a written examination, enter into a 30-day probation period, and make numerous trial trip runs accompanied by instructor drivers before being put on regular runs as helpers.

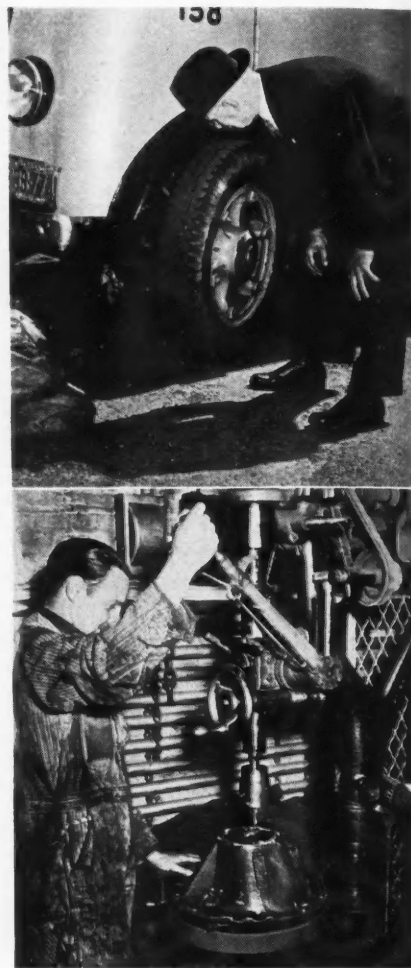
With ICC safety regulations governing practically every phase of motor truck operation, we must exercise considerable care in deciding who should be permitted even to fill out an application for a position as driver. It is hardly fair to a man to let him go through the rather lengthy process of making official application unless he stands a real

(TURN TO PAGE 60, PLEASE)



Department store pools package units and modifies its PM schedule to meet needs of a curtailed fleet of bulk delivery trucks

by STANLEY GERSTIN



PM PLAN FOR A CURTAILED

JUST how much or what part of a department store delivery system can be curtailed or pooled in compliance with requests from the Office of Defense Transportation as a step in saving automotive equipment is being answered in the light of its own needs by Hochschild, Kohn & Co., Baltimore, Md., department store. Right or wrong, this department store has just made a radical change in its delivery set-up and only time will tell if the move is in the right direction.

The delivery scheme devised by Hochschild, Kohn involved separating package delivery from bulk, warehouse and transfer operations.

The package delivery was incorporated into an entirely new delivery set-up to be operated in a pool with two other department stores in Baltimore, or three in all. We hope to reveal full details of the pool and the results of its first few months of experience in an early issue of **COMMERCIAL CAR JOURNAL**.

Bulk deliveries, warehouse and transfer operations have been retained by Hochschild, Kohn for very definite reasons, which will be explained, and it is this part of the operation which will be described in this article for what value it will be to local delivery fleets with a similar problem.

Hochschild, Kohn decided not to pool its bulk and transfer trucks because of the difficulty entailed in prorating the cost of their operation under the pool. It was also felt that their independent operation permitted the company more freedom of movement, with essential trucks available when needed. Consequently, Hochschild, Kohn undertook the continued operation of its bulk fleet consisting of nine 11½-ton oil tankers, two tractors, five trailers, six bulk delivery trucks and three furniture trucks—making 25 in all.

The company adapted its basic preventive maintenance program for the servicing and care of its present



Hochschild, Kohn's semi-trailer transfer units and an interior view of the shop showing generator rebuilding for replacement purposes in progress may be seen in the two photos at left. On opposite left page, top, is R. H. Brown, fleet superintendent checking on an inspection job. Below him is shown a mechanic drilling a bell housing in the main shop

DELIVERY FLEET

fleet of 25 bulk delivery units. This is primarily the same program previously used before the package delivery trucks were turned over to the Baltimore pool. Some modifications were made to make the PM program suitable to the new form of operation. Whereas previously, the major portion of the fleet consisted of standardized delivery units and could be accounted for from the service angle with standardized maintenance practices, the new program must meet the PM problems of five types of vehicles where the aggregate of all vehicles is already small.

This maintenance is the responsibility of R. H. Brown, fleet superin-

tendent for Hochschild, Kohn & Co. His office is located in the delivery building which is one of a group of buildings in a four-block square annex located several blocks away from the main store. This area is known as the fleet yard which contains a number of small buildings housing the garages, repair shop, delivery facilities, etc.

Vehicles in most constant service are the nine oil trucks which supply fuel oil for heating Baltimore homes. Demand on these are greatest for 10 months of the year when practically all are out on the road. Inasmuch as no reserve vehicles are kept on hand, the PM program must be

keyed to keep those trucks in constant operation.

Equally intensive in service are the transfer units: five trailers, two tractors. These are used to truck merchandise between the store and the building where delivery is handled. A regular shuttle system operates in that one trailer is left at the store's loading platform, another is left at the unloading platform of the delivery building, and a third might be in transit, loaded or empty depending on which way it is going. Superintendent Brown believes that he gets most intensive use from his transfer units this way. The six bulk delivery trucks handle bulk packages between the store and the warehouse and supplement the three heavy furniture moving trucks retained under the store's direct supervision for servicing its customers of furniture and bulk purchases.

Maintenance work is handled by two mechanics who stagger their shifts so that the first one is on at 7 a. m. when trucks go out for the day's run, and the second doesn't leave the garage before 6.40 p. m., after practically all trucks have returned. This leaves both men in the
(TURN TO PAGE 48 PLEASE)



RECOMMENDATIONS for the proper care of tires when removed from truck equipment for purposes of storage or when the truck is stored with the tire on the wheel, are presented here on the basis of experience in both Canada and the United States and from authoritative tire company sources. Observance of these recommendations is particularly important in the light of experience with tire failures resulting from improper storage practices of uninformed truck owners.

Tires, like the truck itself, require special treatment and conditions injurious to the mechanical parts and body of the vehicle are also injurious to the rubber. Therefore rules applying to protection of automotive equipment apply to protection of tires. Storage space should be as weather-proof as possible. Rain, snow, direct light, sun and excessive salt or acid fumes in the air are destructive agents, in long storage. Cracks and crevices that admit even small quan-

ties of the elements become important because they play, day after day, on the same spot of the vehicle and lead to deterioration of the finish, fabric and rubber.

THE RIGHT WAY TO STORE TIRES

Idle tires need proper care to safeguard them against checking, cracking, deterioration and premature failures

If the entire vehicle is stored, it should be jacked up to raise the tires off the floor. Tires should be deflated to about 10 lb. pressure, or just sufficiently to keep tire and tube in dis-

tended position and storage should be in cool, dark, dry rooms.

If the truck is not stored in a suitable place, it is desirable to remove the wheel and tire assemblies which should be placed in storage as recommended above. In this case identify them with the respective truck serial number on the inside of the wheels. Pile the tires flat—and not upright.

The three major elements to which tires are allergic are:

1. Sun checking.
2. Elements.
3. Cold weather checking.

Sun Checking

Whenever possible, tires should be removed from vehicles and stored in a dark cool place. This is because rubber, when exposed to sun rays, is subject to fine check lines that run in many directions. This condition is not too damaging to tire life if the exposure period does not run over six months. If there are windows adjacent to where tires are stored these windows should be painted blue. Keep tires away from water, oil and strong air currents which convey ozone, an element in the air that is detrimental and causes checking. If stored in this manner, tires may be preserved for a considerable length of time and not reveal failures when placed back in service.

Elements

Reference to elements means, specifically, the "ozone danger" referred to in the above paragraph. Ozone content in the air depends on atmospheric conditions. Unfavorable atmosphere can be the most damaging to tires. Constant exposure to ozone causes a rapid deterioration of rubber parts. First sign of ozone attacks are thin hairline cracks. These cracks generally begin at two points in the exact center of the tread and are referred to in the tire industry as groove cracking. Cracks also appear at the point where the road surface tread ends. This is referred to as buttress cracking. Frequently this cracking

will show up in six months. When a truck is placed in service, cracks open up to great depths and result in blow-outs and rapid tire deterioration. Unfavorable ozone conditions in the atmosphere are more prevalent in northern parts of the United States than in the southern parts because where there is more sunshine there is much less ozone content in the atmosphere.

Cold Weather Checks

Cold weather checks are similar in appearance to sun checks, but upon closer examination are much deeper. To prevent this reaction in tires, it is necessary to deflate them to approximately 10 lb. of pressure as previously stated and place stands under the axles to remove all weight from the tires. The vehicle should be stored with the same care recommended for the tires and if possible tires should be covered with waterproof bags.

Tires stored according to these recommendations will keep in good condition for approximately two years. On the other hand, tires placed in service after being subjected to acid fumes in a room where batteries are charged or stored, will have only about a 5000-mile life. Tires left on trucks and exposed to all climatic conditions without taking any precautions whatsoever for one year will have only about one-fourth the life of a new tire. Also, if these precautions are not taken, the rubber will dry out and checking and cracking will appear within a few months. Once cracks set in they enlarge and when the tire is put in service premature failure results.

Tire research engineers have stated that a tire paint has been developed which will prevent any deterioration of a tire exposed to the weather, but this product has been placed on the priority list. They also state that under no circumstances should an operator dress or paint any tire with any material other than what is recommended by the tire manufacturer.

TRICK TIRES FOR DELIVERY TRUCKS



The saying that "necessity is the mother of invention" is an old platitude but ain't it the truth? Fleetmen are turning their attention to substitutes for tires and have come up with the ideas shown here. At top right is Floyd Bradford's idea of ersatz tires. Treads are

supported by old carspring leaves covered with chunks of old tire casings. This Portland, Ore., inventor says they will do 50 mph. Beneath it is a wooden tire being used by Dugan's Bakery, New Jersey. It is made of four blocks of wood dovetailed at the ends and bolted. Tread is

brake lining. Dugan's has applied for a patent; expects to use more of them. Bottom photo shows a milk delivery wagon operated by Waukegan Dairy Co., Waukegan, Ill. It boasts a complete set of wooden tires constructed of small blocks bolted to the metal (above photo).



CONSERVATION CORNER

Latest recommendations from the Office of Defense Transportation on the subjects of truck conservation and parts care include: Truck Storage Etiquette ... Tire Care for Longer Wear ... Conservation Programs ... Salvaging Worn Parts

Truck Storage Etiquette

TRUCKS taken out of service in accordance with the war conservation program as well as new trucks not yet allocated should be stored with the utmost care, urges Joseph B. Eastman, Director of the Office of Defense Transportation. Certain specific procedures should be carried out to prevent deterioration of such vital equipment.

The first rule calls for storage places which give the trucks complete protection from the weather. As an added precaution, they should be covered by paper or cloth to keep dust and dirt from getting into the moving parts.

Cooling systems should be drained and flushed, and the fuel tanks and lines also should be emptied to prevent sediment formations.

An ounce of lubricating oil should be poured into each cylinder and the engine slowly turned over to give the cylinder and piston walls a protective coating.

Oil also should be applied to all other moving parts which are accessible, while grease should be left in transmissions and differentials. Unpainted parts of the chassis should be coated with grease.

The ODT also said the clutch should be disengaged by holding the pedal down with a block of wood and the emergency brake released.

Tires should be removed and stored in a horizontal position in a cool, dark place.

Remove the battery and check it every three weeks in hot weather, every six weeks in cold weather. Keep up the charge to a gravity reading of at least 1280.

Hydraulic brake systems should be filled with brake fluid to prevent rust.

Tire Care for Longer Wear

Warning that failure to take proper care of truck tires can produce a "transportation bottleneck," John L. Rogers, Director of the Division of Motor Transport, Office of Defense Transportation, recommends procedure for safeguarding present tire supplies.

While tire rationing regulations provide tires for motor transport engaged in war production or essential civilian activities, Mr. Rogers said that until there is a replenishment of

(TURN TO PAGE 80, PLEASE)

1. Cylinder Ridge Scraper

by F. A. Ulmer
Philadelphia, Pa.

I have had considerable trouble with cylinder scoring when removing the ridge with an ordinary scraping tool. It is a difficult job to prevent the scraper from gouging the cylinder wall, so I made this tool which I have used with excellent results. Take a half round file, and from the end to about 2 in. back, grind smooth the filing surfaces. Then grind the tip as shown in the illustration. The distance from the shoulder to the end of the file should equal the distance from the top of the cylinder to the bottom of the ridge.



2. Elbow Repair Clamp

by Preston R. Coleman
Rainey Wood Coke Co.,
Conshohocken, Pa.

On the Autocar engine an aluminum elbow with a split end for clamping is used to support the Air-maze air cleaner. If you tighten the bolt at the split end too tight the clamping ears are liable to break off. Since these elbows (A) are expensive and aluminum hard to get, we made a steel strap clamp (B) to cover the split end of the elbow. We have found that this clamp can now serve two purposes: first, we have been able to salvage broken elbows, and second, we use it to prevent breaks in good elbows. With this clamp the elbow can be securely tightened.

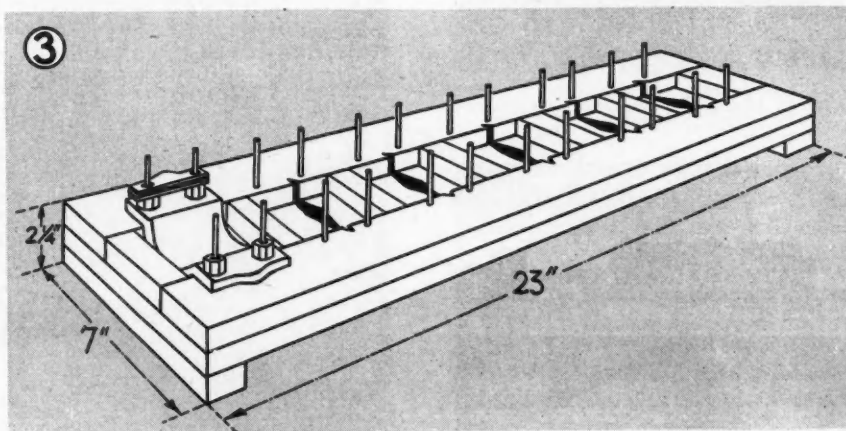
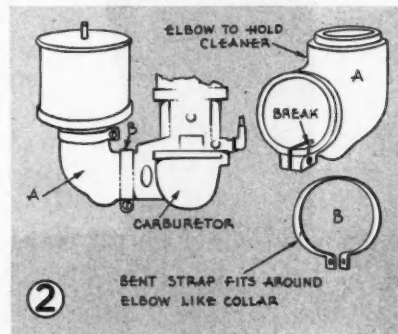
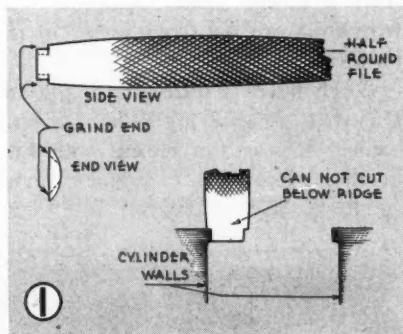
You can do yourself and your country a service by buying United States Victory stamps and bonds. Here is your chance to help win the war by investing in this Democracy. Commercial Car Journal will pay you \$5.00 if you have an acceptable idea that simplifies shop operation. Send in as many ideas as you have to the editor (four will more than buy you a bond). A photo or rough illustration and simple explanation of the idea in your own words are enough. CCJ fixes them up.

3. Bearing Tray

by W. M. Heil
Gulf Refining Co., Louisville, Ky.

Here is a very handy addition to your repair kit, one that will save you much hunting and groping when working under the engine. This tray is designed to hold the connecting rod caps, bearings, shims and nuts, and will enable you to keep them in the order that they were removed. The tray is gouged out to take care of cap reinforcement or oil dipper.

The suggested overall dimensions are: length 23 in., width 7 in., height 2 1/4 in., including a 3/4-in. stand. The internal dimensions will be governed by the size of bearings and caps and can be very easily worked out. The dimensions given in the illustration are for your guidance in making the tray and should be first checked against the bearing cap sizes.





MARIE JONES - -

Driving a 35-ton tractor-trailer is a woman's job, too, according to this girl who tells fleet men what they might like to know in approaching the problem of hiring women truck drivers

by MARIE JONES

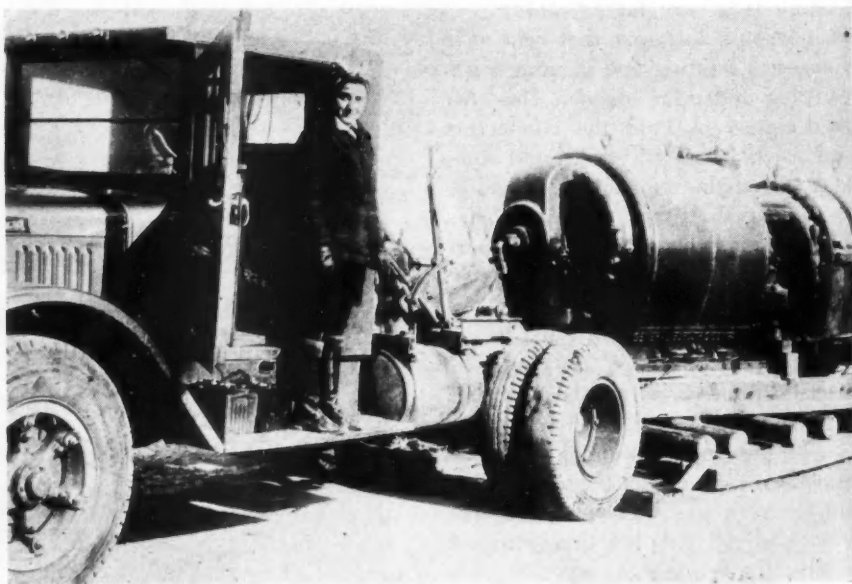
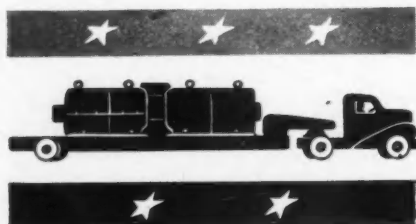
Truck Driver for Claude E. Jones Trucking Co., Topeka, Kan.

LEARNING how to back a 35-ton tractor with a 26-ft. trailer without jackknifing, and being able to obtain the maximum in work from a power winch equipped with wire rope are the two "musts" in my business.

When I was a little girl in pigtails I used to go with my father on long hauls. It was fun riding with him in the tractor cab. I spent many

evenings with him in the machine shop, too. I'd hold the light while he repaired a motor; hand him tools or help with the crane.

I grew up in the business and for the past three years I have been working for my father full time as a truck driver. When I started, my main job was to operate the crane which he had built to fit the back of a truck. We had taken a contract to haul a



TRUCK DRIVER

large amount of 8-in. water pipe. We were to pick it up from the railroad in gondolas spotted at the team track. Father built a special crane for this job and at first it was equipped with the stiffer ordinary wire cable. We soon learned however that the best for our purpose was a more flexible preformed wire rope. This type of rope enabled us to do the work far easier and faster. On this water pipe job I unloaded as much as 65 tons of pipe in four hours.

There is nothing unusual to me about the fact that I am a truck driver. Nor yet the fact that my tractor-trailer is a 35-tonner, or that I have hauled single loads weighing over 100,000 lbs. It seems as natural to me as being a music teacher—I might have taught music; or being a secretary—I graduated from a secretarial school. I finished high school when I was seventeen. After entering business college I found considerable time to help my father both in his shop and on moving trips. So when I had finished business college, I started to work for him instead of going into an office.

Father's business was getting bigger all the time. Two years ago he bought a \$12,000 "job." The purchase of that new truck and trailer brought him a lot of publicity and free advertising. This resulted in calls for help on large moving jobs from all over the state and even from neighboring states. Jobs too big to be handled by local men were assigned to us with our giant new tractor and trailer. We had four units and these were busy most of the time.

With that many trucks on the road there was always work to be done in the shop. Much of it had to be done at night, and since father either did the work or was there to supervise it I had a chance to help him. While working together in the shop we'd plan our next hauling job. If it was to be an unusually heavy or awkward load we would draw a chart and work out every minute detail. Planning your operations in advance always pays dividends in time, money and frequently safety to men and machines.

One of our earlier jobs with the big outfit was moving electrical equip-

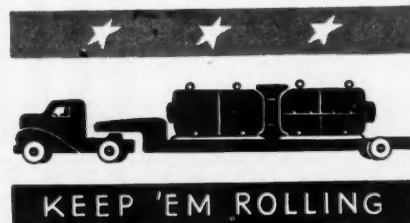
ment for the Kansas Power and Light Co. at Abilene, Kansas. Four transformers each weighing 25 tons were to be hauled 15 miles. We slung these onto the trailer and made the trips easily. But moving the turbine generator weighing 50 tons was quite another matter. For this job father decided to buy a new carryall.

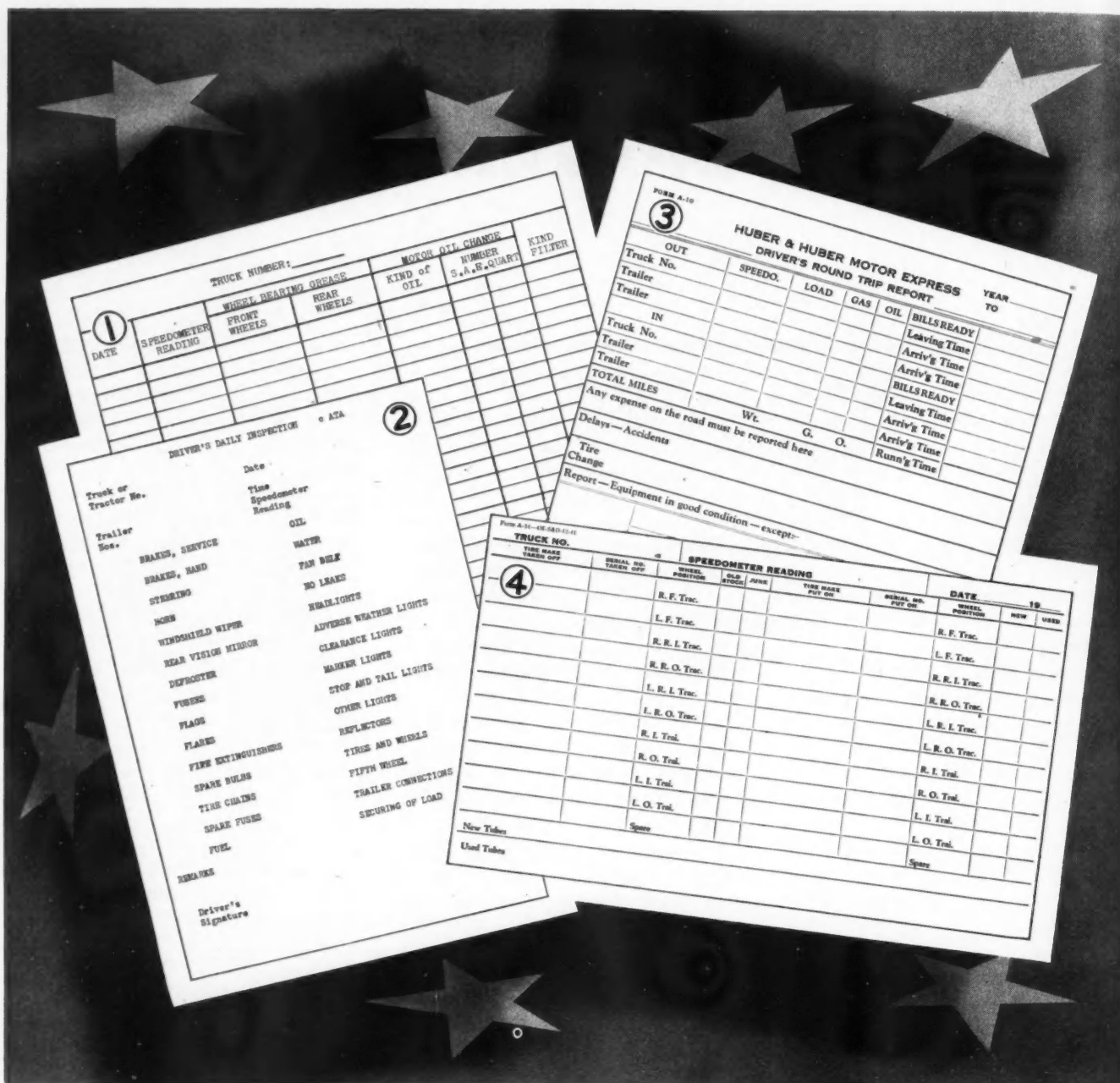
We planned the whole move on paper, then started to work. To get the 50-ton piece on and off the trailer I operated the power winch. I stood by the cab with one hand on the brake lever, the other on the clutch. My eyes were glued on my father. When he said, "Easy now, easy like a lady," that's just what he meant, and that's where the precision efficiency of the power winch and preformed wire rope comes in.

I don't know whether other heavy haulers will agree with me or not, but I'd rather handle a 50-ton load than a 500-lb. one. It's less dangerous. A 500 pound piece of machinery can be loaded and unloaded by hand. But when you load something weighting scores of tons, you first plan every (TURN TO PAGE 86, PLEASE)



Pretty 21-year old Marie Jones, feminine truck driver par excellence is shown far left attired in what she thinks the woman should wear: shirt, slacks, gloves and bandana. At bottom of opposite page she is shown in winter clothing: boots, breeches, Machinaw, gloves, bandana (and long underwear). Note tractor she drives and load behind her. At left on this page is evidence that Marie is La Femme at heart, in street clothes and evening dress. In the article she explains why truck driving can be as much a woman's job as man's.





Maintenance forms used by Huber & Huber Motor Express that enable the company to achieve its goal in maintenance are shown above. Fig. 1 is 8 x 11 in the original. Fig. 2 is 6 x 8 in. Fig. 3 is 7 x 8 in. Fig. 4 is 5 1/2 x 9 in. Additional forms are shown on page 36. Note listings on inspection form.

MAINTENANCE MUSTS

FOR FLEETS



**A fleetman urges the necessity of re-
considering maintenance practices and
making them fit needs of war conditions**

by HAROLD WILLINGS

Assistant to General Manager, Huber & Huber Motor Express, Louisville, Ky.



Harold Willings

WE are at war. War touches everyone, and if anyone of us harbors the impression that we as individuals can go along in a normal way we

are laboring under a false impression. We are affected in our taxes; our home life; our pleasures; our recreation; our business; our jobs; and not the least by our methods of transportation.

We in the trucking industry are vitally affected by shortages of rubber, supplies and equipment. But there are many who have assumed that these shortages will adjust themselves shortly so that a slight disturbance might be expected, and that is all. Having tried to keep my hand on the pulse-beat of the Nation so far as these things concern us I can truthfully say that those who continue in that attitude will shortly be crying out to the heavens that they have been wilfully abused, not considering their own short-sightedness.

Maintenance of equipment at this time means the adoption of methods befitting present and future conditions. It means the adoption of far different methods than those we used six months or a year ago. It means the adoption of methods to conserve that which we have at present with the picture in mind that replacements are practically a thing of the past. Therefore, a piece of equipment or a tire are priceless objects

that must be guarded against damage, destruction, and wear and tear beyond which we are powerless to prevent.

When we speak of equipment many of us visualize the truck only, we do not think of the many other things we use in our industry daily as requiring attention and maintenance. However, let us discuss the truck first.

Every piece of machinery is subject to the human element, whether that human element be driver, mechanic or loader, and where the human element is involved, it calls for supervision and control. The truck driver is a very responsible person in your organization. He can be the person more responsible for the conservation of your trucks than anyone else.

In the past our truck driver cared only about getting his truck out of one terminal into another and just so long as it would run he was somewhat indifferent to its mechanical performance. Perhaps when he brought it into the terminal he would pass on some remark to the mechanic, such as "Say, Bill, you better look at that differential, it makes plenty of noise" and Bill, who was probably busy on some other job might reply "O.K., Jim, I'll look at it when I get a chance." He might or might not look, perhaps forget all about it until he receives a service call from the next driver, that takes it out, to bring out a new rear system. This indifference has cost money in the past but it can cost considerably

more in the future if parts are not available.

Indifference cannot be tolerated now. Daily inspections, trip reports, timely repairs, proper care, systematic lubrication, proper loading, and proper driving are the things which must be done.

When a truck arrives in the terminal the driver knows what the performance of that truck was on the road and he should record that performance in writing indicating any defects that have developed on the trip, or any repairs made. This is done by means of a "trip report" card filed with the garage immediately after the driver arrives in the terminal. These cards should be inspected by the garage superintendent, and mechanics designated to inspect and repair the reported truck. As repairs are made the mechanic records time and parts used on the card. These cards can be used effectively in arriving at your unit costs if you have recorded on them the amount of oil and gas used and miles run. In other words these cards are necessary before parts can be issued by the stock room, or gasoline and oil issued. Before passing to the superintendent, cards must be checked against the master lubrication chart to find out which parts need lubrication, greasing, oil changes, etc. This master chart records the dates on which different parts of the truck were serviced and when they will require additional service. Gasoline is added and entered on a gas card and tire pressures

MAINTENANCE MUSTS FOR FLEETS

(CONTINUED FROM PAGE 35)

are checked before the card is released to superintendent who checks it and releases it to the platform man.

Now all this work is systematized so that nothing is overlooked in the proper care and servicing of the truck. There are no haphazard or verbal orders given, *they must be recorded.*

When the truck is placed alongside the platform, the platform foreman should inspect the truck for holes in floors, leaks, protruding nails, proper fitting doors and tailgates, etc. before the truck is loaded.

It is the duty of the platform foreman to check on the proper loading of the truck. Poor balance and overloading means excessive wear on tires and might easily lead to accidents. This is also a part of drivers' inspection before they take the truck out. Shifting of loads that might result in damage to truck or cargo can be prevented by proper loading.

After the truck is loaded and OK'd to the dispatcher, it is placed in the care of the driver who carefully inspects the truck by means of an O.K. card, which, briefly, requires check of lights, extra equipment such as spares, fuses, pot-torches, fire extinguisher, extra bulbs, lug wrench, tire tools, jack, etc. Windshield is cleaned, brakes and steering tested, gas card checked. After checking O.K. he takes his bills and a new trip report card and starts out with what should be a truck in as perfect condition as it is possible to make it.

Driving on the highway the driver is on his own, except perhaps being

checked by highway patrols or safety engineers. It is while he is on his own that much depends on the performance of his truck while he is driving or in the future use of it.

Too fast driving wears rubber quickly, it steps up the wear on engine parts, it quickly wears out brakes. What should be the top speed for the vehicle? That can only be answered by the performance of the vehicle itself. It would be useless to maintain speeds of 40 m.p.h. if your vehicle has an overdrive that can only be utilized at 42 m.p.h. and over. The over-drive is placed in the vehicle to cut down the number of r.p.m. and thereby lessen the wear on engine parts. At the same time it is not installed as a means of fast driving from which no conservation benefits are derived. If no over-drive or high-speed axle is installed and your top speed is now 40 m.p.h. it might be necessary to cut that speed to 25 m.p.h.

Drivers should be schooled in proper ways to slow down on curves; to negotiate grades; to steady acceleration; proper use of brakes; courtesy, as all these contribute to the proper use and care of vehicles just as much as speed.

The cooling system of the truck is one of the important parts that can add to efficiency or cause unnecessary wear of the engine. In the winter months a good grade of anti-freeze is a good investment. An anti-freeze that evaporates might easily result in freezing of water resulting in cracked blocks allowing water to enter crank

cases mixing with the oil and damaging parts essential to proper performance. Covering of radiators by drivers, in order to secure heat in cabs often results in overheated engines with resultant damage to rods and pistons.

It seems to be a favorite practice of drivers to let their motors idle while eating in some restaurant. They usually cover the radiator so that the cab will be nice and warm when they enter it again. It is at these times that most of the damage is done by overheating. It also results in wasting gasoline. Next year there is likely to be a serious shortage of anti-freeze, so drain out what you have been using into closed containers and store for next winter.

Exercise proper control of drivers by teaching them correct methods of operation and outlining to them the necessity of conservation of equipment, which eventually means conservation of their own jobs. The operator who overlooks this part of his operation has a great many headaches. It not only reduces accidents and costs but promotes a better spirit of cooperation between management and men and between operator and the shipping public, at the same time the operator is showing his patriotism and instilling that feeling into the minds of his employers.

How about the repair shop and mechanics? Not all operators can afford expensive testing and repair machines, but substitutions can be made without much cost. The garage

(TURN TO PAGE 92, PLEASE)

Form No. 5 (self-explanatory) measures 9 x 6 in. in the original

[illegible]

Form No. 6 (also self-explanatory) measures 5 x 8 in the original

[illegible]

QUICK emergency action for the wiping away of interstate barriers that are impeding the motor truck movement of war materials is being attempted as the upshot of the May 5-7 Federal-State Conference held in Washington, D. C., at the Department of Commerce upon the invitation of President Roosevelt.

Attended by delegates from all but two states—Montana and Wyoming—and addressed by prominent government officials, deeply concerned over interstate laws that have impeded truck shipments of highly important war materials, the conference was moved to specific steps when Frank Bane, executive director, Council of State Governments, announced that Governors of every state had been asked to meet at the end of May to advise what they can do to break down highway trade barriers. The Governors' meeting was urged by Heil of Wisconsin.

Meanwhile, data have been prepared at Mr. Bane's suggestion by all the war agencies of the government giving a list of the specific laws and state regulations which have been interfering with the war program. With the material the government has indicated what it wants done about each law. Study of the material is being made by the committee precedent to calling a meeting with the Governors in the hope that they can propose a quick elimination of the bottlenecks that are halting interstate truck shipments of war supplies. Warning was given by Lieut-General Brehon B. Somervell unless some of the barriers are removed by the states themselves the Federal government will have to take action.

This warning directed attention to two reports that gained currency at the conference: (1) That unless the states having barriers that are objectionable to the Federal government removed them, the Administration, turning to war powers, would issue an executive order to remove the barriers; or (2) That a drive will be made by the Administration, in the absence of early action by the states, to push the recently-introduced Andrews-Lea Bill through Congress.

This measure, endorsed at the trade barrier conference by Defense Transportation Coordinator Joseph B. Eastman, would authorize the President



TRADE BARRIERS ON THE WAY OUT

Governors called into conference by President are given to understand that barriers to truck transportation must be removed by the states or the Federal government will take jurisdiction

by L. W. MOFFETT

Washington News Editor, Commercial Car Journal

through any appropriate agency to prescribe maximum size and weight limitations for motor vehicles for particular highways in order to facilitate the prosecution of the war.

This is another way of authorizing

elimination of barrier bottlenecks, which Federal government representatives checked on at the conference. These choke points were carefully catalogued in a presentation made by

(TURN TO PAGE 97, PLEASE)



FOR CHEVEROLET TRUCKS



Edward Hedner
provide these fleets with a check on their maintenance practices and will help them in their desire to restore much of the original serviceability of Chevrolet trucks.]

[Editor's Note—One-third of the trucks in use in the United States are Chevrolets. To prolong truck life many fleet operators are entering into truck conservation programs. The following service suggestions by an authority

Timely suggestions for improving maintenance practices in order to restore original serviceability of Chevrolet trucks



by EDWARD HEDNER

National Director of Service, Chevrolet Motor Division



1. ENGINE REPAIR OPERATIONS

Pistons: Chevrolet pistons are cast iron surface treated and are cam ground out of round. Pistons for truck engines are somewhat heavier than passenger car pistons and are available in the following sizes: Standard size, plus oversizes of .003, .010, .020, .030, and .040-in.

When it becomes necessary to overhaul the engine and replace the pistons, here are a few suggestions to help mechanics prevent mistakes:

1. Cylinder bores should never be honed over .003-in. oversize.

2. They should be rebored and finished honed for .010, .020, .030, or .040-in. oversize pistons.

Any time a piston is removed from the cylinder, it should be examined for carbon on the inside and any carbon that is present, removed. This helps to keep the engine oil clean.

Fitting Pistons

After the cylinders have been

honed or rebored, polish the cylinder bore with a hone and fine stones.

Place a .002-in. feeler gauge in the cylinder and push the piston into the cylinder bore, using very little pressure. The piston should pass the feeler gauge stock throughout the entire length. Next, try the same procedure using a .003-in. feeler gauge. The piston should lock tight on this operation.

CAUTION: Greater care must be exercised when fitting the slipper skirt pistons because they can be damaged very easily by careless handling. Do not exert heavy pressure on the piston when pushing it into the cylinder bore to check the fit with a feeler gauge.

Piston Rings

If the space between the ends of

the rings is less than .005 in., remove the ring and try another. Be careful not to distort a ring when removing from the piston. Fit each ring separately.

New pistons and rings wear considerably during the breaking-in period and ring and gaps will open up. However, if ring gaps do not become greater than 1/32 in., engine operation and oil consumption will not be affected.

Main Bearings

When necessary to replace main bearings, the clutch housing should not be removed from the cylinder block. This is very important as the clutch pilot bearing hole in the clutch housing is used to align the boring bar. Should it be necessary to replace the clutch housing, the new



★ KEEP 'EM ROLLING ★

housing must be assembled to the block and checked before main bearings are installed. The housings furnished for service are interchangeable with production parts.

CAUTION: Always install a new oil seal wick at the rear main bearing. Both in the upper half in the cylinder block and rear main bearing cap.

Crankshaft end play should be .004 in. to .007 in. Exceeding these limits, new bearings should be installed.

Connecting Rods

Every time a connecting rod is removed and is to be replaced in an engine, or a new connecting rod is to be installed, it should be carefully checked for alignment on a connecting rod alignment fixture.

When connecting rod adjustment becomes necessary, which is very seldom, remove shims. An equal number should be removed from each side of the connecting rod cap. Adjust the bearing until it will just snap back and forth on the crankpin when tapped lightly with a small 8-ounce hammer. Then place one .002-in. shim on each side of the bearing cap. Tighten and the proper running clearance will be obtained.

Check the rod side clearance at the upper half. This clearance should be .004 to .011 in.

Valves

Lack of power and noisy valves in many instances can be traced to worn valve guides. Check the intake and exhaust valve guides with new valves. There is a difference in the diameter

of these valve stems so be sure the exhaust valve goes into the exhaust guide and likewise on the intake valve stem.

The clearance that must be maintained between the intake valve stem and the guide should be .001 to .003 in. and the clearance between the exhaust valve stem and the guide should be .002 to .004 in. Quite naturally if the valve guides are worn, they should be replaced and reamed to proper clearance.

Valve Springs

Weak valve springs affect the economy and power of the engine. Therefore, each time the valves of an engine are reconditioned or ground, the valve springs should be checked to be sure they have not been weakened from heat of the engine. Special fixtures and scales are available for this purpose. Compressing the valve spring to 1½ in. at this length the spring tension should be from 125 to 133 lb. Springs that do not check within these limits should be replaced.

Rocker Arms

After considerable use, rocker arms become pitted due to wear. Rocker arms can be refaced by using the special fixture furnished with all valve refacing machines. Refacing the rocker arms assures quiet operations.

Valve Seats

Reconditioning the valve seats on modern high compression engines is very important because the seating of the valves must be perfect for the engine to deliver its full maximum horsepower and performance built into it.

We recommend the use of a grinder of eccentric type for reconditioning valve seats in the cylinder head.

Before attempting to recondition any valve seats, clean all carbon and sludge from the cylinder head. Wipe the valve seats with a rag soaked in (TURN TO PAGE 104, PLEASE)



FREE PUBLICATIONS

A specially selected list of the latest literature—books, pamphlets and catalogs—intended to help fleet operators with their operating and maintenance problems, and more valuable today than ever before. All are free. To get your copies simply fill in the number on the postcard, which needs no stamp, and mail.

L1. Tire Care Manual

A new 52-page booklet explaining in detail the rules for the proper care of truck tires and containing suggestions which will enable operators to obtain every possible mile of service from their present tires has just been released by The Firestone Tire & Rubber Co.

L2. Axle Inspection Chart

In keeping with their axle maintenance program launched this year, the Timken-Detroit Axle Co. announces a new 22 x 38 in. wall chart describing axle inspections which should be made at regular intervals. In addition to covering Timken front axles and the four types of rear driving axles—bevel, worm, double reduction and two speed double reduction, the chart also describes inspection operations applying to brakes and transfer cases.



L3. Hand Truck Catalog

Here is a new 20-page catalog issued by the American Pulley Co., and devoted exclusively to hand trucks. Hand trucks designed to meet the need of both shop and loading platforms are well illustrated and accompanied with complete specifications. Of especial interest to truckmen should be the illustrations of the new "Upsy," a steel drum-carrying truck.

L4. Salvage by Metallizing

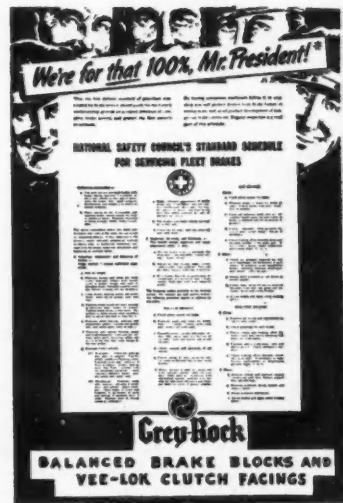
A 16-page bulletin, published by the Metallizing Engineering Co., describes the metallizing process and equipment for its application. Included are brief sketches of how replacements become unnecessary and service life of equipment increased by building up worn diameters to any desired size, and making sprayed metal corrosion resistant. Examples are given to show how metallized insets and coatings are helping to conserve vital materials.

L5. Vacuum Power Brakes

Bendix Products Division has gone "all out" in this excellent manual on vacuum power brakes. The manual is offered for basic training of students and apprentices, and will aid the more experienced men in reviewing the fundamentals of vacuum power braking.

The manual is of pocket size with 128 pages divided into five chapters. Chapter One contains a brief description of vacuum and atmospheric pressure. Chapter Two contains the early history and development of the B-K braking principle. Chapter Three is a complete picture of the present day vacuum power braking. Chapters Four and Five cover the various units and types of installations now in use.

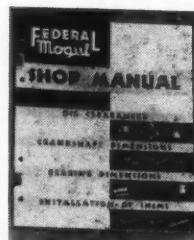
[Mail postcard for your free copies]



L6. Grey-Rock Service Chart

Grey-Rock is offering this National Safety Council Brake servicing schedule free to fleets in an enlarged format of a 25x38-in. two-color wall hanger. This schedule was designed to fit in with efforts to urge mechanics to do their utmost to increase safety.

L7. Bearing Shop Manual

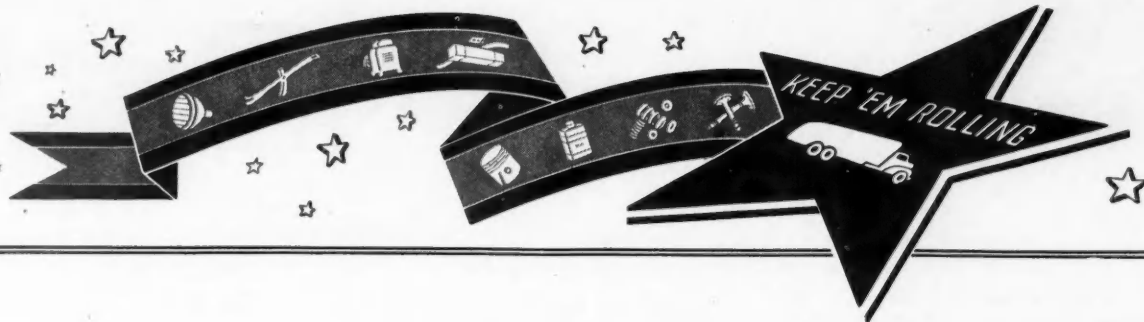


Containing in convenient reference form essential size information for engine bearing service, a new shop manual has just been published by Federal-Mogul Corp. Covering such vital information as bearing oil clearances, crankshaft dimensions, and installation of shims, this 64-page book is divided into sections for quick reference.

L8. Engine Maintenance Book

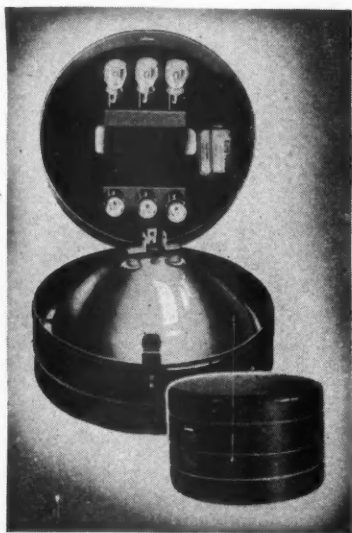
"Practical Pointers on Engine Maintenance" is the title of a new 32-page illustrated booklet offered by the Ethyl Corporation to commercial operators. It contains up-to-date, practical information that will help fleet men keep their equipment in tip-top condition for the duration.

The manual will prove of equal value to skilled mechanics and beginners.



NEW PRODUCTS

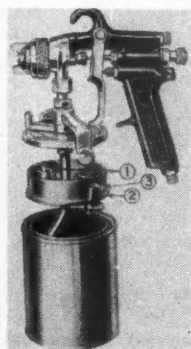
Here are descriptions of the latest in shop equipment and supplies, replacement parts and accessories developed by manufacturers for the benefit of fleet operators. For more details of any product described in this issue fill in the number on the postcard and mail. No stamp needed. Also use postcard for details on advertised items.



P1. "Carry-All" Light Kit

This new kit for trucks for holding a sealed beam headlamp, three 3 c.p. bulbs, three 6 c.p. bulbs and a box of standard fuses has been designed by Yankee Metal Products Corp., Norwalk, Conn. The gripping devices in this kit keep the contents firm, rigid, and vibration proof. The "Carry-All" is constructed of heavy steel, finished in black enamel. Two reinforced holes in the bottom allow for solid attachment inside the cab. The "Carry-All" is furnished as a container only, and is not equipped with the replacement parts.

P2. Paint Can Adapter



Due to the shortage of aluminum for spray gun paint cups, Binks Mfg. Co., 3114-40 Carroll Ave., Chicago, points out the desirability of using their L-367 Can Adapter, which makes use of the original paint container as the paint cup on the gun. This adapter fits onto the standard cup attachment, and will lend itself for use with any standard type paint can.

[Mail postcard for more information]

JUNE, 1942

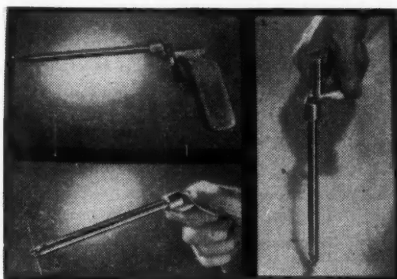
P3. Flexible Tubing

A solution to the problem of replacing brass, copper and aluminum tubing, is offered by The Everhot Products Co., 2055 W. Carroll Avenue, Chicago, Ill., by means of their Bundyflex metal tubing.

This tubing, available in all diameters from 1/8 in. to 5/8 in. OD in various popular wall thicknesses, is a soft annealed steel tubing that is coated with copper on the inside and outside. It can be bent and flared; it can be soldered, brazed or welded, and for additional protection on the outside it can be painted or enameled.

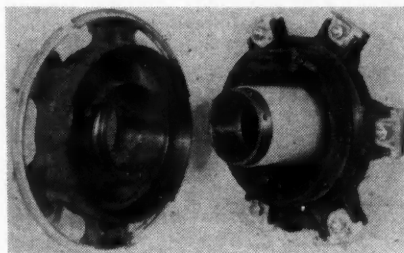
P4. Long Nose Cutter Retriever

Compactly designed to (1) cut wire with one-handed, one-fingered operation, also (2) to retrieve or to hold nuts, bolts,



washers, cotter pins, etc., at inaccessible points, the Alpert long-nose cutter-retriever will be distributed nationally by the Pack-Rite Machine Corp., 828 North Broadway, Milwaukee, Wis.

The instrument resembles a pistol, the cutting edges being located at the end of the long slim barrel. To cut wire, the operator merely places the wire between the cutting edges of the pistol and snips off the wire by bringing down the trigger. To retrieve parts the trigger is brought downward and the steel cutters pick up the missing part.



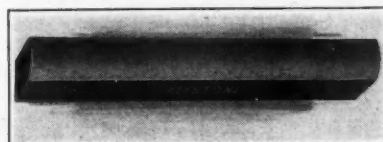
P5. Improved Dual Wheels

The Differential Wheel Co., Detroit, Mich., announces the incorporation of a new laminated bushing, which requires no lubrication, to be used on the extended hub of the inner wheel. This bushing replaces the present steel back bronze bushing. They claim this is a marked contribution to greater durability.

Another improvement is offered in a new type lug with a much wider gripping surface. This new lug, they claim, will eliminate the need for frequent tightening. It is claimed that these two improvements practically eliminate the need for service on differential dual wheels.

P6. Keystone Polishing Pads

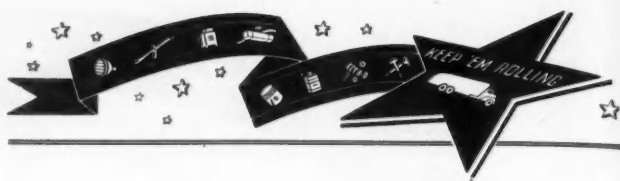
A new product for finishing the surface of cylinder walls has been developed by the Keystone Carbon Co., St. Marys, Pa. Use of these pads after grinding removes all traces of abrasion, sharp edges and bent-over particles. They are furnished to fit standard sizes of grinders and hones



and can be made into any size or shape.

[MORE PRODUCTS PAGE 42]

NEW PRODUCTS



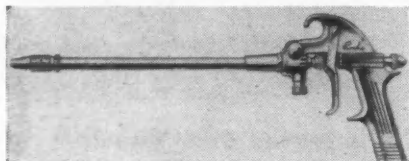
[Mail postcard between pages 40 & 41 for more new product information]

P7. Stud Loosening Method

A "plastacele" molding powder for making a small cup of cellulose acetate plastic is announced by the Du Pont Co., Wilmington, Del., as a quick loosener of frozen cylinder head studs. The plastic cup designed to fit 7/16-in. and 3/8-in. studs, is attached to the head of the stud and an oxide solvent poured in. It trickles down through holes in the bottom of the cup, dissolving corrosion around the stud and making it easy to remove the cylinder head without damaging it.

P8. Cleaning Gun

Now available through the Binks Mfg. Co., 3114-40 Carroll Avenue, Chicago, Ill., is this Binks No. R3-EC cleaning gun. Equipped with a pistol grip, adjustable material control, adjustable nozzle, and



a standard pipe thread air connection. Uses approximately 4 C.F.M. at 40 to 50 lb. pressure. The gun can be used with a quart syphon cup or with suction hose running into open container. Weighs 1 1/2 lb.

P9. Gunk Solvents

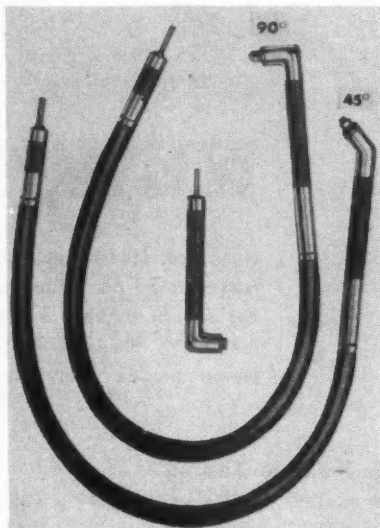


The Curran Corp., Malden, Mass., has announced the development of two new products: Gunk XP-92, and Gunk Concentrate P-96.

The XP-92 is a concentrate solvent to be diluted with water and used as a safety replacement for naphtha,

gasoline and kerosene in hand wiping operations. Claimed to have high solvency against mineral oil or dirt, not to de-oil the skin, has no toxic vapors, no flash or fire point, and leaves an invisible rust preventive film so thin it cannot be detected.

Concentrate P-96 is a self-emulsifying degreasing solvent diluted with kerosene or light fuel oil, and used for cleaning automotive, airplane and machine surfaces. Applied with a brush and rinsed off with water.

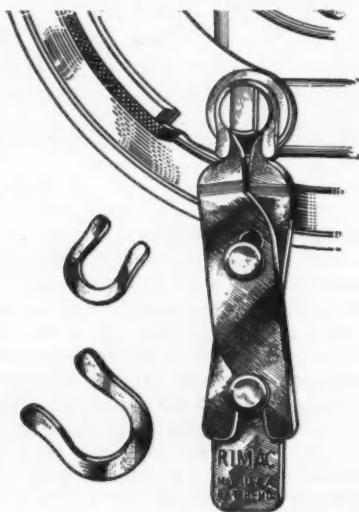


P10. Flexible Shafts

The Stow Manufacturing Co., Inc., Binghamton, N. Y., has added two new flexible shaft angle drills with 45 deg. and 90 deg. heads. They are designed for drilling in hard-to-reach spots, and are built for heavy-duty service. Heads are gear driven, full ball bearing type, and permanently attached to the flexible shaft. Spindle heads are threaded for adaptors, accommodating either stub or full length drills up to No. 30 size.

P11. Anchor Washer Remover

To its line of automotive service tools Rinck-McIlwaine, 16 Hudson St., New York City, has added a new type anchor washer removing tool. This tool is designed to remove the horseshoe washer on the anchor pin. A few light taps on the base of the tool removes the washer without damage to the washer or pin.



P12. Metal Tag Substitute

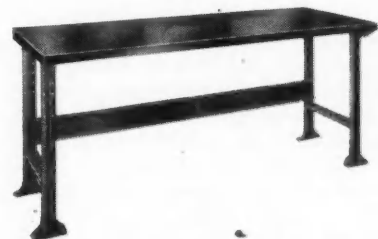
A new product has been developed under the name of "Kum-Kleen" which is being used as a substitute for name plates, metal tags, identification, patent number and instruction tags. This product will adhere to any metal glass, plastic, enamel, varnish and wood surface. Changing climatic conditions has no effect on its adhesive qualities. It is being manufactured by Avery Adhesives, 451 East Third St., Los Angeles, Calif.

P13. An-Cor-Lox Lock Nut

The Laminated Shim Co., Inc., Glenbrook, Conn., announces that Cap Nut shapes are now available in An-Cor-Lox lock nuts. The cap nuts are of all-metal construction and self-contained, the locking ring being made integral with the nut body. The cap nuts will be made up to users specifications.

P14. Steel Work Benches

Lyon Metal Products, Inc., Clark St., Aurora, Ill., announces an extended use of the Lyon metal work bench by the addi-



tion of several new and improved accessories. Now the bench may be equipped with single drawer, two or three shift drawer units for multiple-shift operations, a half-depth shelf, full-depth shelf, back and end stops, foot rest, or full length bench riser. A new 40-page catalog just released shows complete illustrations and descriptions on this bench.

P15. Auto Alarm

The Kathanode Corp., St. Paul, Minn., has announced a new type electric alarm designed to prevent the theft of tires. This device, the Kathanode Auto Alarm, starts a vehicle's horn blowing in short, successive blasts whenever the vehicle is bumped or otherwise molested. The alarm can be set for any degree of sensitivity, so that it will either operate when the vehicle is subjected to considerable shock or only lightly moved. Installation is simple, and can be completed in a few minutes.

Declaration of War

on two axis allies—

WASTE and WEAR!



As we see it, every vital transport vehicle forced out of service by premature, preventable wear, is a loss in America's fight for Victory. Every service part that must be scrapped because of neglect is a gain for our enemies.

In the service field, we must all declare our own war on these two unrelenting enemies—Waste and Wear!

We must pass along what specialized help we have available, to the service men who are going to keep those vehicles running.

In building carburetors, brakes, power braking equipment and other units for the majority of the millions of trucks, tractors, buses and cars now in use, Bendix has necessarily studied field service requirements long and thoroughly. Much of the data resulting from these years of study has been "boiled down" into a simplified "Carburetor Overhaul Procedure Manual" and another Book—"ABC of Vacuum Power Brakes."

Both of these useful service aids are available to fleet and shop service directors who request them on their firm's stationery.

BENDIX PRODUCTS DIVISION
of Bendix Aviation Corporation
SOUTH BEND, INDIANA



FREE!

new

**FIGHTING
MANUALS**
*for Automotive
Service Men*

Bendix Products

STROMBERG CARBURETORS • BENDIX B-K VACUUM POWER BRAKING • BENDIX HYDRAULIC AND MECHANICAL BRAKES • BENDIX
FACTORY-LINED BRAKE SHOES • BENDIX GEARSHIFTS • BENDIX-WEISS UNIVERSAL JOINTS • BENDIX CLEANER—FOR AUTOMOTIVE PARTS

NEWSCAST



Private Truckers Request Modifications of Orders 5 & 6

Through its War Advisory Committee, the National Council of Private Motor Truck Owners, Inc., Washington, D. C., has petitioned the ODT to amend recently issued General Conservation Orders to "more equitably distribute the burden of compliance among the various classes of operators involved."

The more important modifications requested are:

1. Extension of the line of demarcation between "local delivery" service and "over-the-road" haulage to a radius of 50 miles from the loading point of the motor truck.
2. Provision that the circuitous route limitation should not apply to operation of regularly scheduled multiple-stop, pick-up or delivery routes.
3. Amendment of limitation on mileage of empty trucks moving to pick up return loads at nearby points to permit such empty movement up to 10 per cent of total mileage involved in entire trip.
4. Addition to ODT No. 5 of a section with respect to joint and collective action similar to that contained in Local Delivery Order No. 6.
5. Modification of the 75 per cent return load requirement to provide that a truck may return to or in the direction of its origin point without a 75 per cent return load in cases where notice of such movement has been cleared with the common carrier agency for the territory and the use of the truck is not desired for the transportation of a suitable load in the direction in which it is bound.

Special Exemption Permit from Order 5 for Private Carriers

Private truck operators who feel that strict compliance with provisions of General Order 5 as it now stands would not permit them to operate in accordance with the order because of the 75 per cent return load requirement, may obtain a special permit exempting them from this provision upon application to the ODT.

ODT Transport Manual

The ODT has sent copies of a manual containing detailed suggestions for setting up local transportation programs to all Governors and to the mayors and other community executives. It is hoped to (1) prolong the life of all transportation facilities now in use, and (2) to increase the efficiency of mass transportation facilities.

Truck Production (U. S. and Canada)

	1942	1941	Per Cent Change
January	107,905	100,835	+7.9
February	98,128	104,172	-5.7
March	105,290	111,587	-5.5
3 Months	311,321	316,594	-1.6
April		102,784	
May		117,817	
June		118,757	
July		121,298	
August		83,103	
September		78,413	
October		100,157	
November		110,788	
December		120,905	
Total		1,270,616	

May 30 Was U. S. Deadline for States to Cut Barriers

The upshot of the May 5-7 Highway Conference, was that confidence was expressed by Federal government officials that governors of all states would accept suggestions of the subsequently appointed committee of five governors to do away with state restrictions and establish minimum regulations proposed by Public Roads Administrator Thomas H. MacDonald. Governors were given until May 30 to suspend restrictive laws for the duration of the war. Notice was served by Undersecretary of the War Robert P. Patterson that early action was necessary. He plainly indicated that failure of states to adopt the recommendations would result in issuance of an executive order by the President doing away with barriers that impede the movement by motor trucks of war materials. Such an order is said to be ready for promulgation if it were found necessary.



This nifty yellow and blue file case is available to truck owners free for the asking. It's for filing Timken Axle News published by the Timken-Detroit Axle Company

[MORE NEWS ON PAGE 46]



Don R. McKay has been placed in charge of all terminals in the Eastern Michigan division of the Inter-State Motor Freight System, succeeding Sherman S. Marr, who is now assistant general manager of the system. McKay joined Inter-State in 1940

Allan S. Lehman has been elected a director of the Studebaker Corp. He was a partner of the Lehman Bros. since 1908. He is also a vice-president and director of Lehman Corp. and a director of Southern States Land & Timber Co. and General Realty and Utilities Corp.



ODT Names Eight More Officers

The Office of Defense Transportation has appointed eight more field office managers in the Division of Motor Transport. The field officers will administer locally the various programs being conducted by the Division of Motor Transport and, in addition, will assist the War and Navy Departments and shippers in making arrangements for motor transport of war materials.

Location of the new field offices and the managers appointed follow:

Detroit, Mich.—J. Robert Cooper, former traffic manager of the Red Star Transit Co., Detroit.

Los Angeles, Calif.—Roy Long, former vice-president of the Valley Motor Lines and assistant general manager of the Valley Express Co.

St. Louis, Mo.—A. D. Mason, former vice-president and general manager of the St. Louis terminal of Complete Auto Transit.

Baltimore, Md.—M. R. Greene, former manager of the Ericsson Line, Inc.

Louisville, Ky.—F. S. Crawford, former president of the Crawford Transport Co., Ashland, Ky.

Memphis, Tenn.—R. T. Lawrence, former officer of Gordon's Transports, Inc.

New Orleans, La.—Donald T. Maentz, former manager of the Associated Truck Lines, Inc., Grand Rapids, Mich.

Seattle, Wash.—Harold C. Arnot, former automotive distributor.

The ODT also announced the appointment of William H. Thompson, former vice-president of Adams, Inc., Fargo, N. D., to the Washington office of the Division of Motor Transport.

SAE T&M Meeting

The SAE announces that the West Coast T&M meeting is to be held in Los Angeles, Cal., at the Biltmore Hotel. Aug. 20, 21 and 22.

The meeting will be conference of Motor Fleet and Military Operators and will include discussions of recommended practices for maintenance of fleets of motor vehicles in use by private and common carriers and the military forces.

WPB Truck Section Chief

Thomas A. Bragg, industrial specialist with the OPM and WPB, has just been appointed chief of the Truck Section of the Automotive Branch of the WPB.

**From Bangor, Me., to Boston
and back ... 7 days a week!**



Exide-equipped milk trailer truck operated by St. Johnsbury Trucking Company covers 174,000 miles a year.

THIS milk trailer truck covers a lot of miles on a run that tests both truck and equipment. Rain or shine, 7 days a week, it makes the long run from Bangor, Maine, to Boston and return ... 480 strenuous miles each day!

Yet so satisfactory are her heavy-duty Exides, that the St. Johnsbury Trucking Company, St. Johnsbury, Vt., chooses these famous batteries for the long distance trucks in their 175 truck fleet. Low maintenance cost, plus dependable, fast starts, justify and repay that choice. In the trucking world, as everywhere, Exide helps *Keep America Rolling*.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto



Exide
HEAVY-DUTY
TRUCK BATTERIES



NEWSCAST

(CONTINUED FROM PAGE 44)

New Order Restricts Replacement Parts Output

The War Production Board, in its curtailment of the manufacture of replacement parts, has extended the period for the production of such parts by three months to Sept. 30. Under the new limitation order, which was issued May 5, manufacturers of functional replacement parts for passenger cars, station wagons, taxicabs and light trucks under 9000 lb. gross vehicle weight, are limited in the production of such parts to 70 per cent of the total dollar volume of such parts sold in the corresponding quarter of 1941. Manufacture of all non-functional parts such as fenders, hoods, bumpers and running boards is banned. The new order extends from April 1 and covers the quarters ending June 30 and Sept. 30.

The new limitation order L-4-c supercedes L-4-2 and L-4-a, which permitted manufacturers to make 150 per cent of their total 1941 sales volume of replacement parts in the first six months of 1942.



Wm. I. Miller, president of Miller Mfg. Co., Camden, N. J., announces his company now occupies enlarged headquarters with 9000 sq. ft. of working space. Since 1936 the company has added 16 warehouses to its holdings here, in Canada and Auckland, New Zealand

Mack Service for the Army

Mack Trucks, Inc., announces the formation of a Government Service Engineering Department. This department will be charged with the task of advising Army personnel in the proper servicing, repairing and handling of Mack trucks now at Army camps and military posts throughout the country. Charles F. Drumm will head this new department consisting of a field force of service engineers, district and divisional service managers.

Movers Draft Pooling Plan

In compliance with ODT Order No. 3 and 6 the Moving and Storage Industry Defense Transportation Committee, advocated the establishment of a central clearing office for the pooling of traffic and equipment.



Mounting the body in the final step on the Studebaker assembly line finishes this heavy-duty truck for military service. The manufacturer announces more of the same are coming off the line each work day

ICC Changes with the Times

Upsetting one of its oldest precedents the Finance Division of the ICC waived liability of two motor carriers under the antitrust laws to permit them to conserve equipment and increase operation efficiency. It authorized the Southeast Arkansas Freight Line, Inc., to lease a portion of the operating rights of Herrin Motor Lines, Inc., for two years at \$50 per month.

Oil Haulers War on Gas Shortage

Eastern petroleum haulers are acting to put all their tank truck equipment into the fullest possible use, 130-hr. work-week is their goal, in an effort to offset at least in part the serious shortage of gasoline on the Atlantic seacoast.

Firestone Starts Synthetic Output

Production of the first synthetic rubber to be produced in a government-constructed plant has been announced by the Firestone Tire and Rubber Co. The first batch of rubber from the new plant was used in making the latest type combat tire for military vehicles.

Keller Named ODT Consultant

Joseph E. Keller has been appointed as consultant on state barriers to ODT Director Joseph B. Eastman. Mr. Keller will deal with problems affecting interstate movement of petroleum and other liquids needed in war production.

Long Haul Carriers Get a Break

The OPA has announced an extension of time within which long haul truck and bus operators may apply for emergency reserves of tires and tubes. Applications to local rationing boards for certificates needed to set up the reserves will be accepted through June 15. Originally May 15 had been set as the deadline.

Metallizing Co. Moves Offices

The Metallizing Company of America announce the removal of their Chicago general offices and midwestern warehouse to new and larger quarters at 1330 West Congress St., Chicago.

New Tire Price Fixed

Price Administrator Leon Henderson has established maximum prices on original equipment tires and tubes for automobiles and trucks allowing a 5 per cent increase over levels that prevailed throughout 1941. Maximum Price Regulation No. 119, which establishes the new ceiling, became effective as of April 27.

Broader Powers for Eastman

The War Production Board has directed the OPA to be guided by ODT policies in formulating tire and gasoline rationing regulations. This action followed the issuance of an executive order by President Roosevelt extending the scope of ODT authority to include all rubber borne transportation. This includes passenger cars and taxicabs.

WPB Clarifies Gross Vehicle Weight

Because of the confusion as to the exact definition of "gvw," resulting in applications having to be returned for correction, the WPB declared that for rationing purposes, it would mean, "the greatest weight of a vehicle and load the manufacturer authorizes and guarantees the vehicle to accommodate with safety under normal conditions of operation."

Terrill Joins ODT

The ODT has announced the appointment of F. O. Terrill of Cincinnati as special assistant to Edward J. Buhner, chief of the Operations Sections (Property Carriers), Division of Motor Transport. Mr. Terrill's duties will involve over-the-road transportation of food products by trucks.

Modern Equipment Changes Name

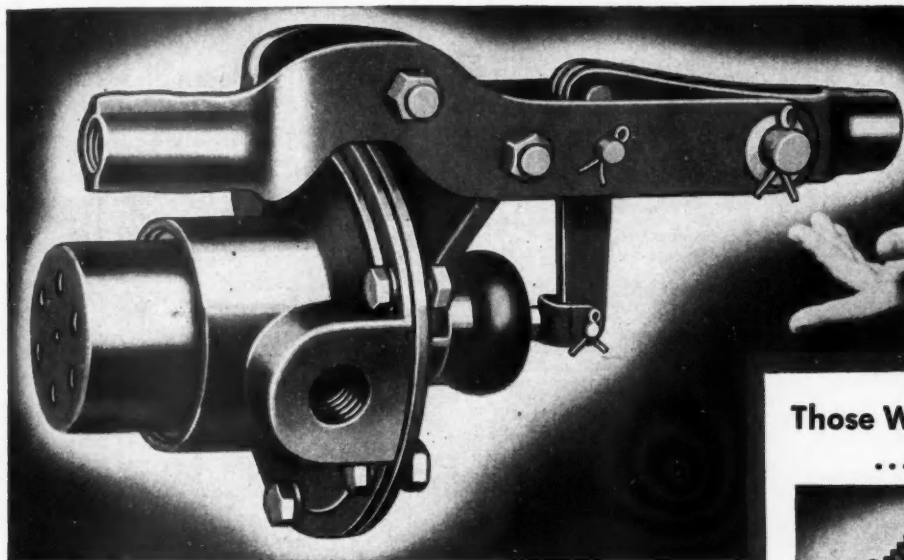
W. C. Allen, vice-president of sales for the Modern Equipment Corp., Defiance, Ohio, announced that, effective immediately, the company will go under its new name, Lynch Manufacturing Corp.

ICC Approves Mason-Dixon Purchase

Purchase of the Cumberland Freight Lines, Inc., by the Mason-Dixon Lines Inc., has been approved by the Finance Division of the ICC.

(TURN TO PAGE 168, PLEASE)

This exclusive fully compensating Control Valve safeguards your fleet



A PATENTED FEATURE OF MIDLAND VACUUM POWER BRAKES!

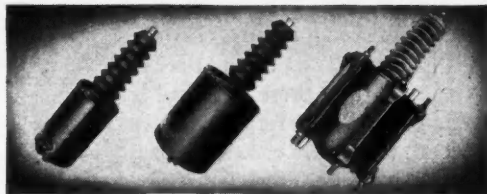
- Braking power is only as good as its *control*.

When you equip your fleet with Midland Vacuum Power Brake equipment, you get the famous Midland fully compensating control valve . . . the valve that permits any degree of brake application with a corresponding "brake feel." A precision scale balance lever puts lost motion to work; an off-set lever by-passes the pull around the valve and prevents strain and premature wear. For tractor-trailer combinations, Midland's Dual Pulse relay valves keep all braking in perfect "time," increasing safety and ease of operation.

Specifying MIDLAND for either vacuum or air brake equipment brings you *engineered advantages at no extra cost*. For further details see your nearby Midland distributor or write us direct.

THE MIDLAND STEEL PRODUCTS CO.
10605 Madison Avenue • Cleveland, Ohio
Export Dept.—38 Pearl Street, New York City

Those Who KNOW Power Brakes ... Choose MIDLAND!



Midland Cylinders are "LOAD ENGINEERED"

There is a Midland vacuum cylinder available for every size truck, tractor or trailer. Each cylinder is rated for maximum load, preventing under-powering of vacuum brake.

Kits contain every needed part

Every nut, bolt and screw and complete instructions for installing are included. Nothing else to buy.



Complete Air and Vacuum Kits
Engineered Especially For . . .

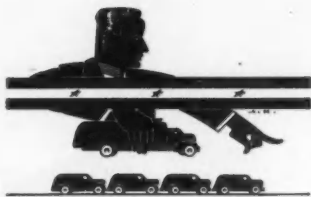
FORD • DODGE • CHEVROLET • G. M. C.
INTERNATIONAL • DIAMOND T



MIDLAND POWER BRAKES

(CHRISTENSEN)





PM PLAN FOR A CURTAILED FLEET

(CONTINUED FROM PAGE 27)

shop the greater part of the day. Besides the mechanics, a washer and greaser comes on in the afternoon to gas, wash and lubricate the vehicles according to schedule.

Because of their intensive use, practically all the trucks are out during the day. Consequently, the shop must be prepared to handle road calls quickly and to meet every such emergency. Drivers are instructed not to touch a truck needing mechanical service. Thus, if something happens, the driver calls the superintendent's office and his call is recorded on a road service form which requires the time, date, truck number, location and reason for the call. It is usually determined from the phone conversation what the truck probably needs and a mechanic is dispatched immediately to service the vehicle. The mechanic answering a road call is equipped to handle most repairs. Usually minor road failures involve plugs, distributor, fuel pump, fan belt, tires, etc., and these are readily repaired. If it is determined that a road repair will take more than an hour another truck is sent out, if one is available, to transfer the load.

Broken springs are a frequently recurring road failure. Everything possible is done to check for breaks during inspections but it is difficult to eliminate their failure on the road because of hard driving conditions. Tire failures are handled by the tire dealer. So far under rationing this has been no great problem with the oil trucks, and the rationing situation isn't old enough for the company to offer a solution regarding the other vehicles.

Nevertheless, every effort is being made to conserve rubber to the utmost by intensive tire care.

If a truck needs repairs and a driver is able to return with it to the garage after the day's run, he indicates this on the mechanical report ticket. This is a simplified form covering motor, transmission, clutch, front axle, steering, electrical system,

(TURN TO PAGE 60, PLEASE)

PREVENTIVE MAINTENANCE SERVICE		
Truck No.	Mileage	Date
This report is to be made every 1000 miles or periods not to exceed 30 days.		
<input checked="" type="checkbox"/> O.K.	<input type="checkbox"/> X-adjustment	<input type="checkbox"/> O-repairs needed
Check here	ENGINE	Check here
1. Tighten cylinder head bolts.	24. Inspect rear axle for backlash.	REAR END
2. Adjust spark plugs to	25. Tighten axle shaft nuts and inspect for end-play.	
3. Oil fan, examine belt adjustment.	26. Inspect for grease leaks.	
4. Oil generator, starter, distributor.	27. Tighten spring clips and adjust shackles.	
5. Clean and adjust distributor points and check timing.	28. Inspect torque tube, propeller shaft and universal joints.	
6. Tighten intake and exhaust manifold.		GENERAL
7. Adjust valves to proper clearance.		29. Check clutch pedal clearance to toe board.
8. Check carburetor and adjust.		30. Check clutch for dragging and slipping.
9. Tighten motor support bolts.		31. Test horn and windshield wiper.
COOLING SYSTEM		32. Fill battery with distilled water, clean and tighten connections.
10. Fill radiator before testing system.		33. Test instruments on dash.
11. Inspect and tighten hose connection.		
12. Tighten water pump gland nut.		WHEELS AND BRAKES
13. Inspect cooling system for leaks.		34. Tighten rim lugs, test for trueness.
14. Tighten radiator tie rods.		35. Check brake linkage for looseness; oil all connections with penetrating oil, check lining & adjust brakes.
15. Tighten radiator hold down bolts.		
FRONT END		BODY
16. Test play in knuckle bolts and wheel bearings.		36. Tighten sheet metal parts and body bolts, inspect and tighten body hardware.
17. Test front wheels for correct alignment.		
18. Inspect and tighten steering arms.		IGNITION
19. Inspect and adjust tie-rod and drag link.		37. Test Wiring.
20. Tighten spring clips and adjust shackles.		38. Test and focus lights (head, tail, stop) dome.
STEERING		
21. Tighten steering housing to frame.		
22. Tighten pitman arm.		
23. Adjust play in steering.		
AFTER ABOVE WORK IS COMPLETED, ROAD TEST TRUCK O.K. _____		
		Signature _____
Time taken for above _____		Mechanic _____
Note--Items marked O, needing repairs, are to be listed on other side with explanation.		

MECHANICAL REPORT		TIRE RECORD	
Check all items you believe should be corrected by mechanic.		DATE	TIME
MOTOR	ELEC. SYSTEM	MAKE	TYPE
Knocks	Battery	YEAR	GRADE
Minor Oil Leaks	Head Light		
Water Leaks	Tail		
Heats	Stop		
Fan	Starter		
	Ignition		
TRANSMISSION	RADIATOR		
Slips 1-2-3-4	Leaks		
Shifts	Overflows		
Stay in Gear	Heats		
Hot	Leaks		
Noises	Cup		
CLUTCH	BRAKES		
Grinds	Drag		
Slips	Take up--Foot		
Will Not Release	Take up--Service		
	Equalizer		
FRONT AXLE	REAR AXLE		
Sprung	Back Axle		
Spring Bolts	Differential Hot		
Loose	Spindle Lame		
Spring Clips			
STEERING	WHEELS		
Loose	Loose		
Wipers	Wobble		
Head	Align		
Ticks			

Top: The large form above shows the main detail of Hochschild's preventive maintenance plan. The three smaller forms are self explanatory. Actual size of these forms are: PM—8x10 in.; Road Service Call—4x5 in.; Mechanical Report—4x6 in.; Tire Record—3x5 in. These forms are the major ones used by Hochschild, Kohn Co. in operating its present PM plan



TRUCK SPECIFICATIONS TABLE

OF STANDARD DOMESTIC MODELS

TABULATED BY
COMMERCIAL CAR JOURNAL

and brought up to date in this issue
from data supplied by manufacturers

KEY TO DEFINITIONS, ABBREVIATIONS AND REFERENCES

DEFINITIONS

MAKE AND MODEL
Only Domestic Truck Models are listed.
OPTIONAL UNITS
For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and chassis and body equipped are considered standard stock models.
CHASSIS LIST PRICE
The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE

The Gross Weights published herewith are those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either weight rating when the gross vehicle weight rating is not shown, or the unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weight that a manufacturer is rated to handle will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT

The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with engine, with standard crankcase and cooling system full, and includes the weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.
STANDARD TIRE SIZE
The standard tire size listed is that which is included in the Chassis List Price.
MAXIMUM TIRE SIZE AUTHORIZED
The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost. It is understood that the maximum rear axle loads are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE

The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.
MAXIMUM WHEELBASE
The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.
MAXIMUM BRAKE HP.
Maximum Brake Horsepower at Given R.P.M. as determined by dynamometer reading without accessories.

GEAR RATIO RANGE

Gear Ratio Range in High—Ratio within the range given are available at no extra cost. Exceptions are noted.
TRACTORS
Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Tractor models are designated (T).

KEY TO REFERENCES

c.f.—Cab Forward design.
c.o.e.—Cab-Over-Engine design.
(C)—Convertible Ford or Chevrolet model, identifiable by engine make listed.
(D)—Designed for use only.
(E)—Designed for use only.
(3) Available—All models available in either conventional or c.o.e. design, oversize power plants, oil engines and six-wheel construction.
With Conventional design, models available:
(6) Federal—245 cu. in. engine and 11¹/₂ clutch available on Models 16 and 76.
(7) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(8) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
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(123) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(124) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(125) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(126) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(127) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(128) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(129) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(130) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(131) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(132) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(133) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(134) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(135) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(136) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(137) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(138) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(139) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(140) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(141) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(142) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(143) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(144) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(145) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(146) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(147) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(148) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
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(213) 263 cu. in. engine and 11¹/₂ clutch available on Models 16, 17, 76 and 77.
(214)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE		Gross Vehicle Weight (For Normal Service)	Chassis Weight (See definition)	TIRE SIZES		ENGINE DETAILS				TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES			FRAME										
			Minimum	Maximum			Standard	Optional	No. of Cylinders	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at 2,000 R.P.M.	Governor Standard	Make and Model	Forward Sp'ds	Make and Model	Clear and Type	Drive & Torque	Clear Ratio	Make and Model	Location	Operation	Lining	Area	Drum	Material	Hand Location	C-A Dimension (Min. Std. W. B.)	Side Rail Dimensions	Type
1	Avail. (3)	C-100	1370	1520	11500	4000	6.50/20	7.50/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53514H	Hy	5.43	4-6-6	Tim 30000H	LH	266	388	388	388	388	XL	60	10-3 1/2 x 3 1/2	T
2	able	C-200	1520	1670	12600	4200	7.00/20	8.25/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
3		C-300	1785	1935	14000	4300	7.00/20	8.25/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
4		C-400	1935	2085	16000	4800	7.50/20	8.25/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
5		C-500	2135	2285	18000	5000	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
6		C-600	2285	2435	20000	5400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
7		C-700	2435	2585	22000	5800	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
8		C-800	2585	2735	24000	6200	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
9		C-900	2735	2885	26000	6600	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
10		C-1000	2885	3035	28000	7000	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
11		C-1100	3035	3185	30000	7400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
12		C-1200	3185	3335	32000	7800	8.25/20	9.00/20	6-3 1/2 x 3 1/2	245.5	7.165	73-3000	7-2 1/2 x 10 1/2	N	WG T9	4	Tim 53308H	Hy	5.43	4-6-6	Tim 30000H	LH	304	477	477	477	477	XL	60	10-3 1/2 x 3 1/2	T
13	Bantam		349	75	1700	850	4.00/15	5.00/15	4-2 1/2 x 3 1/2	50.7	3.41	22-3800	2-2 1/2 x 10 1/2	N	WG T48E	3	Spl 10	B	H	**5.25	Spl 10	OHM	76	104	P	4I	114	8 1/2 x 1 1/2	109	...	
14	Brookway	78	895	138	164	13000	3965	6.00/20	32/6	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
15		83	1105	138	176	14000	4100	6.50/20	7.50/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
16		88	1290	150	188	15000	4300	7.00/20	8.25/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
17		92	1560	166	188	16000	4500	7.50/20	8.25/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
18		94	1850	166	188	18500	4700	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
19		102	1950	166	188	20000	4900	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
20		110	2150	166	188	22000	5100	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
21		130-FS	2525	164	206	20000	6250	9.00/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
22		146	2690	126	206	20000	6600	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
23		147	2850	132	206	22000	6800	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
24		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
25		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
26		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
27		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
28		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
29		153	3025	132	164	22000	6400	8.25/20	9.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
30		170X	3640	153	219	25000	7960	9.00/20	10.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
31		175X	4290	153	219	30000	8500	9.00/20	11.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
32		195X	4290	153	219	30000	8500	9.00/20	11.00/20	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
33		220X	4980	153	219	34000	9050	11.00/20	12.00/24	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
34		260X	6030	153	219	36000	9200	11.00/20	12.00/24	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
35		260S	6350	195	219	36000	10000	11.00/24	12.00/24	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
36		260S	6350	195	219	36000	10000	11.00/24	12.00/24	6-3 1/2 x 3 1/2	210.6	6.154	71-3100	4-2 1/2 x 6 1/2	N	WG T9	4	Tim 53321H	Hy	5.43	4-6-6	Tim 30000H	LH	255	402	A	TX	65	8 1/2 x 3 1/2	...	
37	Chevrolet	BK	528	115	4000	2235	6.00/16S	15/6S	6-3 1/2 x 3 1/2	216.6	6.174	90-3300	4-2 1/2 x 5 1/2	N	Owa	3	Owa	Hy	U	** 4.11	Owa	OH	161	242	A	2I	35 1/2	2 1/2 x 3 1/2	C		
38		BK	528	115	4000	2235	6.00/16S	15/6S	6-3 1/2 x 3 1/2	216.6	6.174	90-3300	4-2 1/2 x 5 1/2	N	Owa	3	Owa	Hy	U	** 4.11	Owa	OH	161	242	A	2I	35 1/2	2 1/2 x 3 1/2	C		
39		BK	528	115	4000	2235	6.00/16S	15/6S	6-3 1/2 x 3 1/2	216.6	6.174	90-3300	4-2 1/2 x 5 1/2	N	Owa	3	Owa	Hy	U	** 4.11	Owa	OH	161	242	A	2I	35 1/2	2 1/2 x 3 1/2	C		
40		BK	528	115	4000	2235	6.00/16S	15/6S	6-3 1/2 x 3 1/2																						

1 Rear 8.10/29.32 x 8.10
2 Rear 7.00/16-8 ply
3 Diamond T Two-speed axle
4 Rear 7.00/16-8 ply
5 Diamond T Two-speed axle
6 Rear 7.00/16-8 ply
7 Rear 7.00/16-8 ply
8 Rear 7.00/16-8 ply
9 Rear 7.00/16-8 ply
10 Rear 7.00/16-8 ply
11 Rear 7.00/16-8 ply
12 Rear 7.00/16-8 ply
13 Rear 7.00/16-8 ply
14 Rear 7.00/16-8 ply
15 Rear 7.00/16-8 ply
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25 Rear 7.00/16-8 ply
26 Rear 7.00/16-8 ply
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28 Rear 7.00/16-8 ply
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99 Rear 7.00/16-8 ply
100 Rear 7.00/16-8 ply

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE	TIRE SIZES			ENGINE DETAILS						TRANS-MISSION	REAR AXLE			FRONT AXLE	BRAKES			C-A Dimension (Min. Std. W. B.)	Type												
				Standard	Dual rear S-single rear	Maximum (Tire Size Authorized)	No. of Cylinders	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Main Bearings Diameter, Number, Length		Governor Standard	Make and Model	Forward Spds		Make and Model	Gear and Type	Drive & Torque			Gear Ratio	Range in High	SERVICE									
																									Make	Location	Type	Operat'n	Lining	Drum	Material	Hand Location		
1	Federal (4)	8	102	128	7000	6.00/16S	7.50/17S	Her QXB3F	6-34x4-6	305	5.0	144	60-3500	7-34x10-10	WG T9	4	Tim 515011H	4H	5.14-6.66	Tim 30000H	5000H	LAIH	210	308	4	209	478	8	TX	58 1/2	1 1/2			
2	(6)	16	135	250	3900	6.00/20S	7.50/20	Her JXCF	6-34x4-6	245	6.0	174	70-3000	7-34x10-10	WG T9	4	Tim 533008H	4H	5.14-6.66	Tim 30000H	30000H	LAIH	299	478	8	TX	58 1/2	1 1/2						
3	(6)	17	140	320	4350	6.00/20S	8.25/20	Her JXCF	6-34x4-6	245	6.0	174	70-3000	7-34x10-10	WG T9	4	Tim 533008H	4H	5.14-6.66	Tim 30000H	30000H	LAIH	299	478	8	TX	58 1/2	1 1/2						
4	(6)	20	140	320	4350	6.00/20S	8.25/20	Her JXCF	6-34x4-6	245	6.0	174	70-3000	7-34x10-10	WG T9	4	Tim 533008H	4H	5.14-6.66	Tim 30000H	30000H	LAIH	299	478	8	TX	58 1/2	1 1/2						
5	(6)	20	145	325	4500	6.50/20D	9.00/20	Her JXCF	6-34x4-6	282	6.0	187	82-3000	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
6	(6)	25	145	325	4500	6.50/20D	9.00/20	Her JXCF	6-34x4-6	282	6.0	187	82-3000	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
7	(6)	25	145	325	4500	6.50/20D	9.00/20	Her JXCF	6-34x4-6	282	6.0	187	82-3000	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
8	(6)	35	190	160	5200	7.50/20D	10.00/20	Her JXCF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
9	(6)	35	190	160	5200	7.50/20D	10.00/20	Her JXCF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
10	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
11	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
12	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
13	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
14	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
15	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
16	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
17	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
18	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
19	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
20	(6)	40	211	3000	4000	6.00/20S	7.50/20	Con 22RF	6-34x4-6	305	6.0	194	85-2800	7-34x10-10	WG T9	4	Tim 544111H	4H	5.14-6.66	Tim 31000H	31000H	LAIH	330	578	8	TX	60	60	TX	58 1/2	1 1/2			
21	Ford Reg. 21T-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
22	Reg. 2GT-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
23	Reg. 29T-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
24	Reg. 31W-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
25	Reg. 31ST-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
26	Reg. 29ST-81	134	134	134	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
27	(c.o.e.) 21W-81	101	101	101	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
28	(c.o.e.) 29W-81	101	101	101	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
29	(c.o.e.) 21W-81	101	101	101	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
30	(c.o.e.) 29W-81	101	101	101	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
31	(c.o.e.) 29W-81	101	101	101	6000/2018	6.00/2018	8.25/20-10	Owa	8-34x4-6	221	5.9	156	90-3800	3-25x5.55	Owa OIT	4	Owa	FS	5.14-6.67	Owa	Owa	O4IH	303	506	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
32	1 Ton 2GY-81	122	122	122	6000/1718	6.00/1718	7.50/17	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
33	1 Ton 2GY-81	122	122	122	6000/1718	6.00/1718	7.50/17	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
34	1 Ton 2NY-81	122	122	122	6000/1718	6.00/1718	7.50/17	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
35	1 Ton 2ID-81	122	122	122	6000/1618	6.00/1618	7.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
36	1 Ton 2ID-81	122	122	122	6000/1618	6.00/1618	7.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
37	1 Ton 2ND-81	122	122	122	6000/1618	6.00/1618	7.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
38	1 Ton 2ND-81	122	122	122	6000/1618	6.00/1618	7.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
39	1 Ton 2ND-81	122	122	122	6000/1618	6.00/1618	7.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	60	60	TX	60	60	TX	58 1/2	1 1/2
40	Com. Car 2NG-81	114	114	114	6000/1618	6.00/1618	6.50/16	Owa	8-34x4-6	226	6.7	180	90-3300	4-25x5.77	Owa 16V-26V	3	Owa	FS	4.86	Owa	Owa	O4IH	187	308	A	TX	6							

c) Federal—Chassis weight shown is for average chassis without cab and complete with average size tires, tools,

introduce new models or change in configurations

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† Rear 32 x 6. This model has a Clark Automatic booster or auxiliary engine 3 1/2 x 4. 47 hp. @ 3200. 94 ft. lb. torque @ 1600 r.p.m. This in combination with Chev. 235 cu. in. engine develops 266 ft. lb. torque and 140 hp. @ 1125/24 single front. 10/50/24 single front. 11.25/24 single front. † Denotes new models or change in specifications. ** Prices not available at this time. † Denotes new models or change in specifications. ** Prices not available at this time.

[illegible]

Four-Wheel-Drive

† Denotes new models or change in specifications.
▲ This model has a Clark Automatic booster or auxiliary engine with bore
▲ Six cylinder engine may be installed.

* Prices not available at this time.

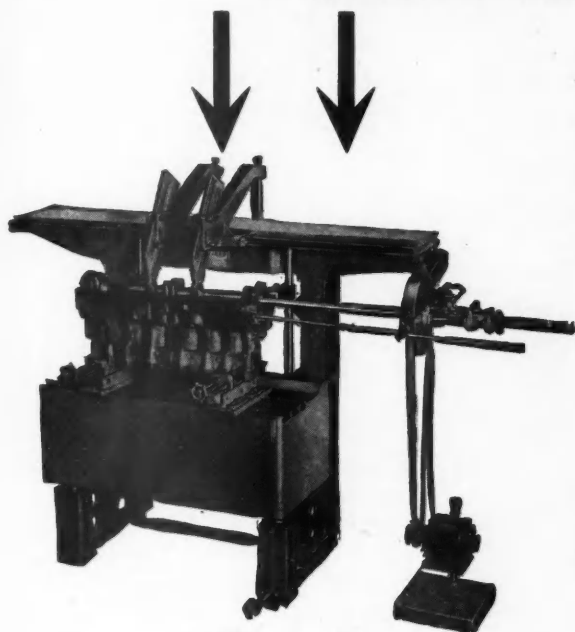
(x) Tire capacity covers gross load.

2 All chassis weights include cab.

ees subject to change without notice.

Line Number	MAKE AND MODEL	Wheels Driven	Chassis List Price	WHEEL-BASE		Gross Vehicle Weight for Normal Service	TIRE SIZES	ENGINE DETAILS					TRANSMISSION		REAR AXLE		FRONT AXLE				BRAKES		FRAME												
				Minimum	Maximum		(See definition)	Standard	Front and Rear	Dual rear 5-single rear	Maximum Authorized (Tire Size un- less noted)	Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Number, Diameter and Length	Governor Standard	Make and Model	Forward Sp'ds	Make and Model	Gear and Type	Drive & Torque	Range in High	Make and Model	Location	Operating Area	Lining Area	Drum Material	Hand Location	C-A Dimension (Min. Std. W. B.)	Type		
1	International (11) K-3-F	4R	2445	151	22000	6040	7.50/20D	8.25/20	O-BL250	6-3 1/2 x 3 1/2	251.6	3	200	100-3200	7-3 1/2 x 10 1/2	Y	Own H41C	4	Own R1450	5F	HT 5.28-6.66	Own F470	LH61HV	495	866 c	DDx	77	84	LH61HV	495	866 c	DDx	77	84	8 1/2 x 3 1/2
2	(11) K-3-F	4R	3525	161	27000	8860	7.50/20D	9.00/20	O-FBC318	6-3 1/2 x 3 1/2	318	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
3	(11) K-3-F	4R	4540	171	30000	10850	7.50/20D	10.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
4	(11) K-3-F	4R	5540	181	33000	12850	7.50/20D	11.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
5	(11) K-3-F	4R	6540	191	36000	14850	7.50/20D	12.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
6	(11) K-3-F	4R	7540	201	39000	16850	7.50/20D	13.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
7	(11) K-3-F	4R	8540	211	42000	18850	7.50/20D	14.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
8	(11) K-3-F	4R	9540	221	45000	20850	7.50/20D	15.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
9	(11) K-3-F	4R	10540	231	48000	22850	7.50/20D	16.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
10	(11) K-3-F	4R	11540	241	51000	24850	7.50/20D	17.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
11	(11) K-3-F	4R	12540	251	54000	26850	7.50/20D	18.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
12	(11) K-3-F	4R	13540	261	57000	28850	7.50/20D	19.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
13	(11) K-3-F	4R	14540	271	60000	30850	7.50/20D	20.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
14	(11) K-3-F	4R	15540	281	63000	32850	7.50/20D	21.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
15	(11) K-3-F	4R	16540	291	66000	34850	7.50/20D	22.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
16	(11) K-3-F	4R	17540	301	69000	36850	7.50/20D	23.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
17	(11) K-3-F	4R	18540	311	72000	38850	7.50/20D	24.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
18	(11) K-3-F	4R	19540	321	75000	40850	7.50/20D	25.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
19	(11) K-3-F	4R	20540	331	78000	42850	7.50/20D	26.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
20	(11) K-3-F	4R	21540	341	81000	44850	7.50/20D	27.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
21	(11) K-3-F	4R	22540	351	84000	46850	7.50/20D	28.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
22	(11) K-3-F	4R	23540	361	87000	48850	7.50/20D	29.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
23	(11) K-3-F	4R	24540	371	90000	50850	7.50/20D	30.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
24	(11) K-3-F	4R	25540	381	93000	52850	7.50/20D	31.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
25	(11) K-3-F	4R	26540	391	96000	54850	7.50/20D	32.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
26	(11) K-3-F	4R	27540	401	99000	56850	7.50/20D	33.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
27	(11) K-3-F	4R	28540	411	102000	58850	7.50/20D	34.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
28	(11) K-3-F	4R	29540	421	105000	60850	7.50/20D	35.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
29	(11) K-3-F	4R	30540	431	108000	62850	7.50/20D	36.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
30	(11) K-3-F	4R	31540	441	111000	64850	7.50/20D	37.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
31	(11) K-3-F	4R	32540	451	114000	66850	7.50/20D	38.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
32	(11) K-3-F	4R	33540	461	117000	68850	7.50/20D	39.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F	HT 5.62-7.16	Own F550	LH61HV	543	1105 c	DDx	84	84	LH61HV	543	1105 c	DDx	84	84	10 1/2 x 3 1/2
33	(11) K-3-F	4R	34540	471	120000	70850	7.50/20D	40.00/20	O-FBC401	6-3 1/2 x 3 1/2	401	3	240	100-3200	7-3 1/2 x 10 1/2	Y	Own F41	5	Own R1560	5F															

NOW — more than ever, you need TOBIN-ARP Machines



To meet the new demands on your present rolling stock, maintenance is all-important. Tobin-Arp machines eliminate the possibility of inadequate or careless repair and enables your shop to do better work in a fraction of the time heretofore necessary.

TOBIN-ARP Line Boring Machine

For boring main and camshaft bearings, reestablishing perfect alignment and mirror finish. Its universal application covers a greater range than ever before possible.



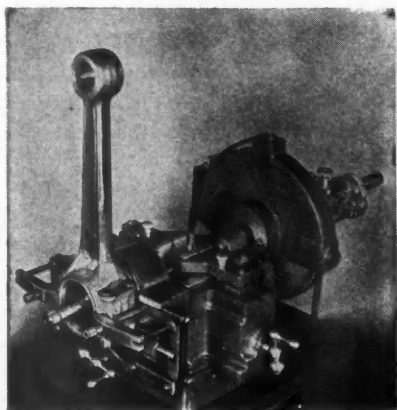
TOBIN-ARP Shell Bearing Boring Machine

Bores individual bearing shells to any predetermined size, also resizes eccentric bearings. A mirror finish in less than two minutes. Handles undersized and odd size bearings.

TOBIN-ARP Rod Boring Attachment

Bores semi-finished babbitted rods, inserts in the rod and the rod forging itself. Handles all rods up to and including R. D. 8 Caterpillar Diesel. Resizes V8 Ford rods quickly. Designed to fit our Shell Bearing Boring Machine.

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Sirs: Without obligation, please send us full particulars on your machines checked below—also delivery date information.

- ☐ Line Boring Machine
- ☐ Shell Bearing Boring Machine
- ☐ Rod Boring Machine

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TOWN STATE

M & D DRIVER-CHECKS

(CONTINUED FROM PAGE 25)

sonable chance of being able to pass the minimum requirements of the ICC, which are so strict that the average motorist couldn't possibly qualify. So we first "interview" each applicant, if you want to call it that. As a matter of fact, we just ask him to sit down, make himself comfortable, and tell us about himself. He does most of the talking.

We merely ask him a few questions about his age, education, previous experience and ambitions. Usually we know something about him and his background already, because so many applicants are relatives or friends of our employees and their visits have been pre-arranged.

If an applicant is over 21 years of age (preferably over 25) and not more than 45 years of age he has hurdled the first barrier. If he has driven a standard truck at least 50,000 miles (preferably *not* for

another motor carrier) we begin to get really interested. We do not care whether he has had tractor-trailer experience or not. If his experience has been with one of the county or state highway departments we start to open the desk drawer where we keep application forms. If he has a grammar school education, or better, and seems to be in excellent physical condition we fish out a set of application forms. If his conversation indicates that his work record is clear, his character good and his sobriety perfect we hand him a pen and ask him to start putting it all down in writing.

Our application form is a six-page affair to which the applicant's photograph must be attached. It asks the usual questions as to name, age, marital status, physical condition, habits, encounters with the law, financial status, education, past employment record and references.

All applicants for driving jobs agree to be physically examined. If an applicant is rejected, or if an accepted applicant is released from our service within 30 days from time of employment, the physical examination is paid for by us. Otherwise, the physical examination, which must be made by the company doctor and under the company's direction, is paid for by the successful applicant, deducted from his pay.

Each applicant signs a statement to the effect that he understands his employment is only temporary at first, and that he is on probation for a period of 30 days. He also agrees to make "student trips" with an instructor at a student's rate of pay while on the road until he has been approved as a driver. Fingerprints are taken of each applicant, and retained in our files, for identification purposes.

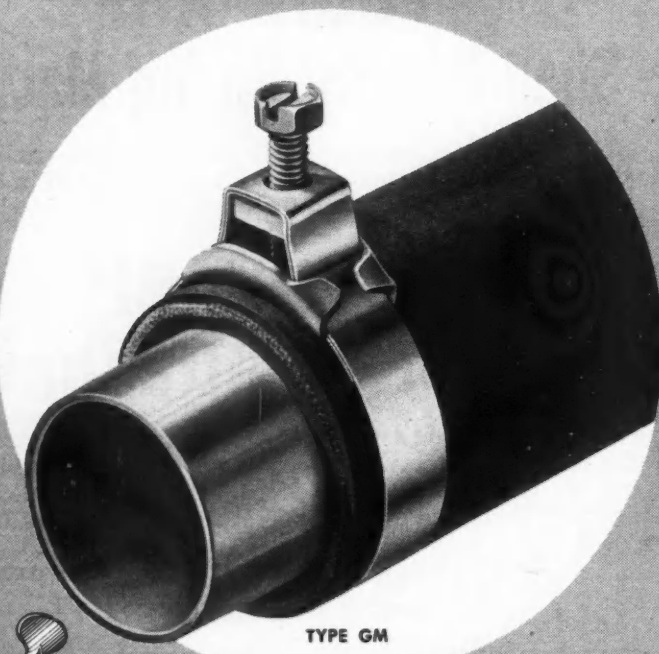
Even though an applicant has been satisfactorily interviewed, has filled in his application, agreed to have a physical examination, accepted a 30-day probationary status, if employed, and been fingerprinted, he isn't yet over the preliminary hurdles. The next thing he has to do is to take a preliminary examination on the subject of safe driving. He must make a grade of at least 75 per cent on this examination before being further considered for employment. There are 25 multiple-choice questions, requiring 42 answers.

(TURN TO PAGE 62, PLEASE)


Depend on **WITTEK**

NOC-OUT

HOSE CLAMPS




TYPE GM




Type A — Adjustable For Replacement.

The Standard Of The Industry
For Quick-tightening, perfect
leakproof hose connections




Type HP — For High Pressure Requirements.



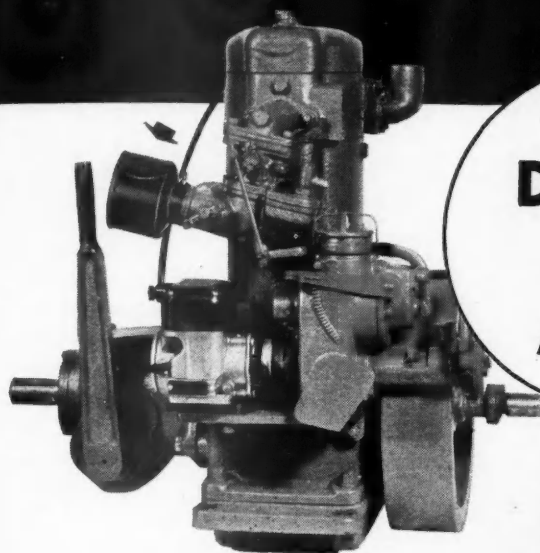
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*Where the Going is Toughest . . .
Where the Dust is Thickest . . .*



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Handling clouds of DUST instead of gunpowder, thousands of Donaldson Oil-Washed Air Cleaners are geared to the industries of VICTORY.

Sufficient ammunition—both food and guns—depends upon the smooth flow of power. DUST is the Axis enemy of every motor, and here the Donaldson Oil-Washed Air Cleaner does its vital Defense job. It eliminates dust in any amount in any location, and for both Diesel and Gas Engines. On power units for industry, transportation and agriculture, you'll find it in the front lines taking the gaff. We are the only manufacturer of heavy duty Air Cleaners maintaining complete laboratory facilities for making every performance test.

If you have a dust problem our engineers can help you. Write us—no obligation.

DONALDSON COMPANY, INC.

666 Pelham Blvd.

St. Paul, Minn.



(CONTINUED FROM PAGE 60)

Assuming that an applicant has complied with all the requirements previously described, he is then given a physical examination. The examining physician reports his findings on a special form, with which is included a visual efficiency test made with a visual survey telebinocular. Should the examining physician find that the applicant has some minor physical impairment that is capable of reasonably prompt correction, and should the applicant ap-

pear otherwise desirable, we notify the applicant and urge him to follow the recommendation of the physician. The implied understanding being that if the impairment is corrected his application will still be favorably considered.

Meanwhile, each name mentioned in the application as a former employer, and each name given as a reference, is queried regarding the applicant. We are greatly interested in an applicant's personal financial history and status, as all of our driv-

ers must be bonded. We are also interested in his insurance history, as we urge all employees to carry Group Insurance.

An applicant who has passed successfully through the preceding tests is then offered probationary or temporary employment, and is asked, as a condition of such employment, to sign an agreement of temporary employment. It is not a continuing agreement and is automatically cancelled 30 days from the date of execution, nor does the employer guarantee to furnish continuous day to day employment for the period covered. The department head, payroll department, vice-president and temporary employee all sign the agreement, after which it is accepted by the signature of Mr. E. W. King, president of the Mason and Dixon Lines.

In his application the temporary employee has already agreed to stand all damages for which he is in any way responsible through carelessness, negligence, or going to sleep while driving. He is also given and asked to sign a list of Specific Driver Rules and Regulations, which includes the penalties imposed for certain violations, and leaves the penalties for other violations to be decided by the management or the Accident Committee, or both, after investigation and consideration of the seriousness of the offense in each particular case.

Speeding incurs a one-trip lay-off for the first offense; a two-trip lay-off for the second; dismissal for the third offense. Drinking while on duty, or unfitness for duty because of excessive use of intoxicants consumed while off duty, is punishable by immediate dismissal. Accidents are investigated by a joint committee of drivers and management, called the Accident Committee, and three accidents chargeable to a driver automatically cause his dismissal.

Penalties for trailing too close are the same as for speeding. Passing on bridges, at tops of hills, on curves, or driving on wrong side of road, transporting persons without authority of management, visiting on road, or switching from one truck to another, failure to comply with ICC rules and regulations, failure to make pick-ups, or to follow authoritative instructions, and failure to check freight properly, or to turn in billing

(TURN TO PAGE 64, PLEASE)



EVERY BEARING YOU SAVE today is a bearing saved for **VICTORY**. For bearings are a **VITAL** defense need. They should be washed, dried and repacked at least every 5,000 miles to prevent abnormal wear. Keep them clean, that "Keeps 'em Rolling".

To do a "factory job" of washing, drying and repacking bearings, service men are buying "Croft" equipment. It pays big dividends in time and labor and in longer bearing life. Ahlberg jobbers can supply you with this scientifically designed bearing service equipment.

Of course, when bearings must be replaced use Ahlberg Ground Ball Bearings. Scientifically re-processed and guaranteed to give new bearing performance. Ahlberg Ground Bearings have been a standard with large fleets and bus operators for thirty-four years.

Save all worn
Ball Bearings
for reprocessing
the
AGB Way

Power washing
removes every
trace of old lubricant and dirt.

Compressed air
blast blows the
bearing perfectly
clean and dry.

New lubricant
forced into every
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WASHES



DRIES



RE-PACKS

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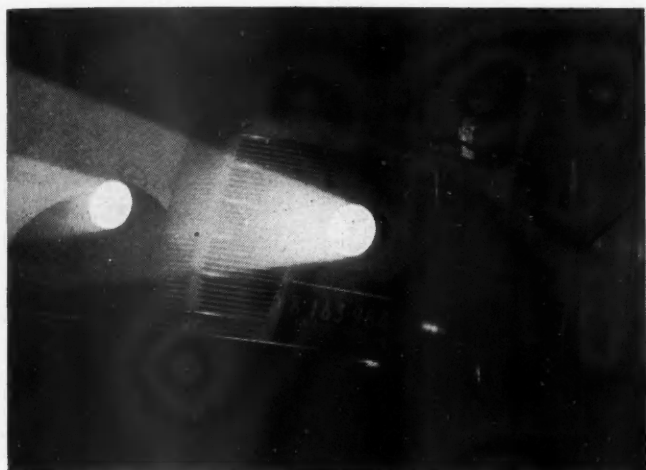
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Out West use PRECISION BEARINGS, INC. Los Angeles

4 WAYS

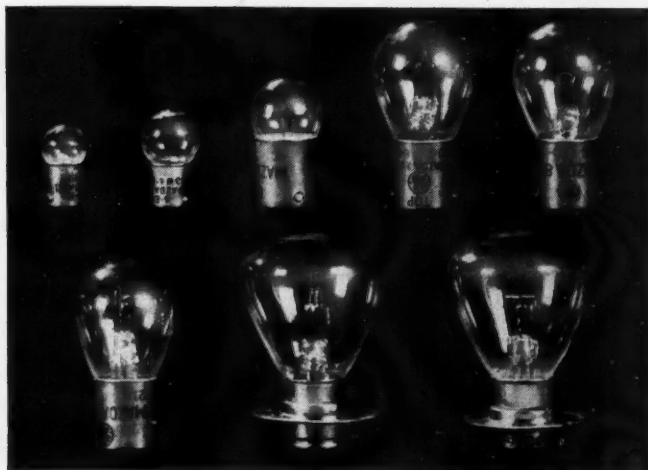
TO GIVE YOUR DRIVERS BETTER LIGHT FOR SAFER NIGHT DRIVING

TODAY'S urgent need is to deliver goods and passengers on time . . . safely. Here are four things you can do to give your drivers the better light they need to reduce accidents and eliminate

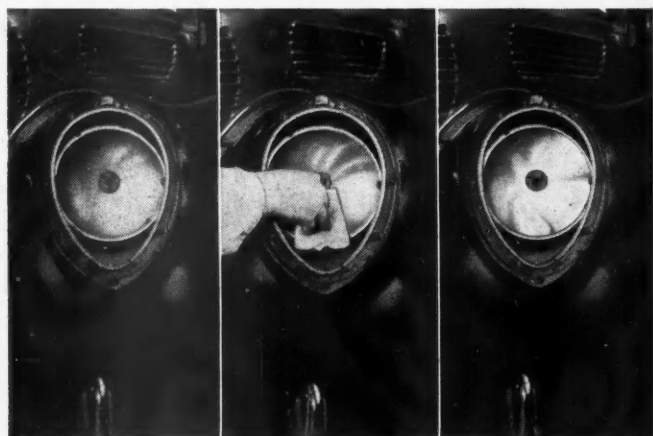
delays on the road. See your G-E MAZDA lamp distributor's salesman for details or write General Electric Company, Department 166-CC-5, Nela Park, Cleveland, Ohio.



1 ON '40, '41, OR '42 TRUCKS OR BUSES or vehicles equipped with Sealed Beam adaptors, be sure to use "all-glass" G-E MAZDA Sealed Beam lamps for headlamp replacements. They give about 50% more light on the road than pre-1940 headlamps and maintain it for the life of the lamp with no appreciable loss.



2 CHECK DRIVING, PARKING, AND STOP LIGHTS for burn outs and replace them with new General Electric MAZDA Auto lamps. Your G-E distributor's salesman can supply you with a General Electric Auto lamp guide showing the proper size and type of lamps recommended for every truck and bus lighting need.



3 CLEAN REFLECTORS AND LENSES on pre-1940 headlamps. As equipment grows older, dirty lenses and reflectors steal more and more light—as much as 50% before trucks and buses are 3 years old. Much of this loss may be regained by proper cleaning.



4 AIM HEADLIGHTS to direct maximum light on the road and minimize glare. Constant vibration and road shock tend to loosen headlamps. By using an adjustment machine or the G-E aiming screen, headlamps may be aimed quickly and accurately.

G-E MAZDA AUTO LAMPS

GENERAL ELECTRIC

Made to stay brighter longer

(CONTINUED FROM PAGE 62)
with freight, are investigated and penalties fixed by the management or the Accident Committee.

The new probationer also receives and signs a receipt for a copy of the ICC Motor Carrier Safety Regulations, agreeing to read and study them, and to pay for a new copy if he should lose his copy of the regulations. He receives, in addition, a copy of the Drivers' Safety Manual and Freight Handling Guide which is designed to place before the pro-

bationer in plain and understandable language some of the things he should know and do to meet our exacting requirements.

A good truck driver must know and do a good many things that cannot be included in any book of instructions. We expect our men to be alert, friendly, courteous, ambitious and efficient, and take pride in doing their work well. We hope that in difficult situations they will know what to do. With this end in view, our guide covers the follow-

ing subjects: Contact With the Public; General Instructions; Operating Instructions; Inspection and Care of Equipment; In Case of Accident; Rules for Bidding Runs; Freight Handling; Safety First; Insurance, Credit Union, Hospitalization, Benefit Fund.

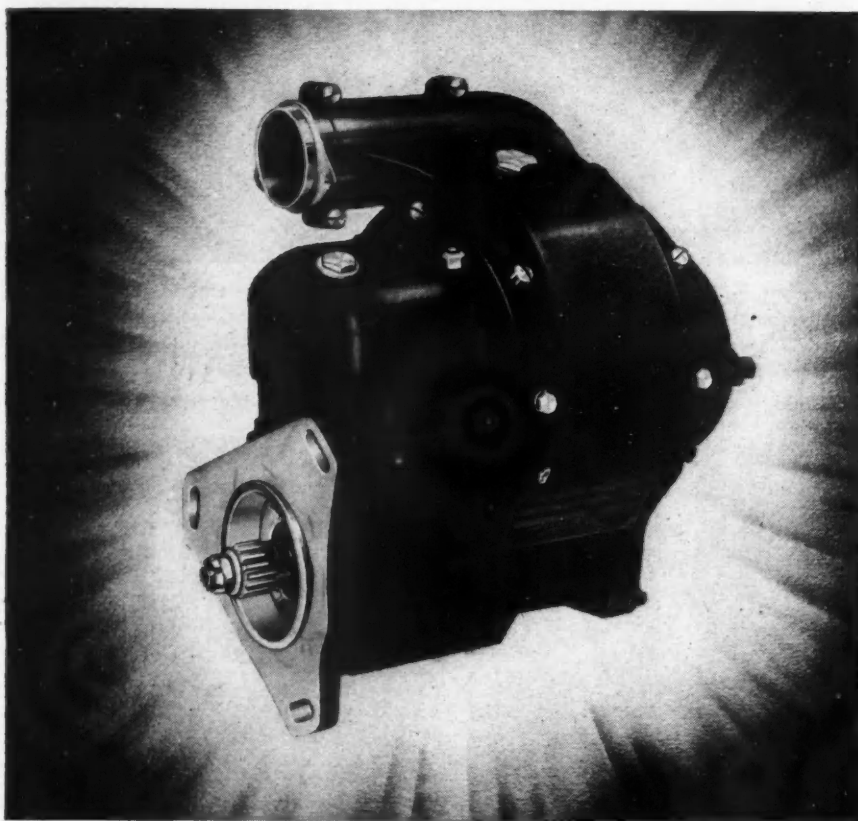
Every probation driver must make at least three trial trips with the duly appointed instructor drivers on the division to which he is assigned, and at least one trial trip with each instructor driver, for the purpose of demonstrating his ability to drive a truck safely, to learn locations of terminals, approved routes, methods of making out reports, the proper manner in which to handle freight, etc. An instructor driver will not permit a probation driver to handle the truck unless he feels that the probationer is reasonably competent.

On each division there are several instructor drivers having a minimum of two years seniority, who observe and tally the probation driver's actions and make an official report, ending with a "yes" or "no" answer to the question. "In your opinion, is this man qualified to properly handle a truck?" These reports, called Trial Trip Reports, state the points between which the trip is made, the number of hours, number of miles, and the dates. Spaces are provided for tallying as correct, safe or adequate—or incorrect, unsafe or inadequate—such actions as inspection of equipment, pulling out, turning, backing, parking, slowing and stopping, driving on open highway, use of brakes, control of speed, passing, being passed, approach to intersections, care during fueling, care of equipment, courtesy to other drivers, to pedestrians and to customers, reaction to highway emergencies, logging of trip, handling of freight, and general conduct at stops, lay-overs and during sleep and rest periods en route.

Instructor drivers, in filling out Trial Trip Reports, give their general impression of probation drivers, classifying them as poor, fair, good or excellent. An adverse report—even several adverse reports—will not cause the dismissal of a probation driver. We have had many instances where probationers were severely criticized during their training period, but who concentrated on trying

(TURN TO PAGE 66, PLEASE)

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Throughout the nation . . . in industrial, farm and marine service . . . wherever engines require magneto ignition . . . the high quality of American Bosch has always been recognized. Today in our factories, New England craftsmen aim at even higher standards; for today American Bosch Aviation Magnetos are furnishing the ignition for many of America's mightiest warplanes.

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Branches: New York, Cleveland, Detroit, Chicago, San Francisco

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SEALED POWER INDIVIDUALLY ENGINEERED **RING SETS**
for all popular makes

SEALED POWER, designers of piston rings used as original equipment in leading cars, trucks, tractors and airplanes, offers you piston rings for replacement that end oil and gas waste and end engine wear. These great piston rings are available in packaged sets engineered for all popular makes of cars, trucks and tractors. You can't buy better piston rings! This year, give your customers better jobs than ever. Re-ring with Sealed Power Engineered Sets—for more power, better economy, greater efficiency. Write for folder listing Sealed Power Engineered Ring Sets.

SEALED POWER CORPORATION
Muskegon, Michigan • In Canada, Windsor, Ontario



Sealed Power **PISTON RINGS**

(CONTINUED FROM PAGE 64)
ing to overcome their objectionable actions, and whose Trial Trip Reports gradually began to show better results, ending with "excellent" ratings from all instructor drivers on their divisions. Only if, after 30 days, a probation driver shows no appreciable improvement, do we lose hope. Even then, if he seems like an otherwise desirable man, we try to place him in some other department where the particular kind of truck driving ability we require is not needed.

A probation driver who receives favorable ratings on Trial Trip Reports then receives written approval from the Supervisor of Drivers in our transportation department before being assigned a run, or permitted to operate our equipment alone. The new driver's seniority begins with the date of his employment, but he is still on a sort of semi-probation for another six months, subject to final approval as a full fledged driver by the Supervisor of Drivers.

Reverting for a moment to the

Trial Trip Report on the actions of a probation driver in so far as his conduct during stops, lay-overs and during sleep and rest periods en route are concerned, we believe that for the sake of the public, fellow drivers and ourselves, the behavior of our drivers should be above reproach.

In assigning a new driver to a run, on which he is first a helper-driver, we make it a point to try to please the senior driver with his new side kick. Two men at loggerheads in the same cab are not conducive to efficient conduct of our business, or to safety on the highway. Two good friends in the same cab are good for themselves, for the public and for ourselves.

We encounter many instances where helper-drivers with ample seniority refuse to bid on runs in charge, preferring to stay as helpers with a buddy they have had for years. Vice versa, many of our drivers in charge refuse to bid on better runs unless their helper drivers can go with them.

As may be inferred, runs designated as "bid runs," and assigned to regular drivers and helpers, are put up for bid when vacant. The method is somewhat similar to that used throughout the transport industry. Notice is posted at Kingsport, terminus of all bid runs, allowing at least seven days from date of notice to date on which bids are opened. Bids are made on small standardized slips, and bidders state their first, second and other successive choices for runs, giving their seniority number, indicating the run desired under each choice, and whether they are bidding for the run in charge or as a helper. A separate, signed bid must be made for each successive choice. The runs are awarded to the bidders with the most seniority, provided in each case that the Supervisor of Drivers considers the bidder capable of handling the run.

A driver must remain for 90 days on the run he was awarded before being eligible to bid on another run, except when new equipment is put into service. Bid drivers may exchange with the written consent of the Supervisor of Drivers, but no extra driver (such as a probationer) may exchange his place on the extra board for a bid run.

(TURN TO PAGE 70, PLEASE)



STOP FUEL THIEVING WITH

MHS Safety Fuel Tanks

• Your drivers can stop to eat with safety when your trucks are equipped with M.H.S. Safety Fuel Tanks—they meet every requirement for safe, economical, trouble-free operation. In addition to the thief-proof pockets (illustrated and described at the right) these tanks are equipped with safety pressure valves that provide extra venting capacity under fire conditions, preventing explosions—measuring sticks for each spout to avoid unnecessary dumping when crossing state lines—easily accessible filter and sediment traps—and many other advantages.

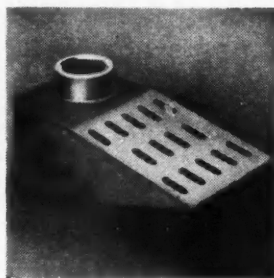
M.H.S. Safety Fuel Tanks are of rigid all-welded construction, and are trussed internally to withstand severe treatment without damage.

Safety and protection from fire have never been as important as now—and remember, after a fire starts, it's too late then to equip the truck with a Safety Fuel Tank.

75-85-105 AND 125 GAL. CAPACITIES

Write for fully descriptive folder

Approved by
Underwriters' Laboratories Inc.



These Thief-Proof Pockets—2 1/4" high—built with solid bottoms and sides, and with 1/4" slots in the top only through which fuel enters the tank, are mounted under each filler neck, thus making it practically impossible to pass a hose into the tank for siphoning.



Safety Fuel Tanks

DESIGNED AND MANUFACTURED BY

MECHANICAL HANDLING SYSTEMS, INC.

4650 NANCY AVE. • DETROIT, MICH.

WORLD'S LARGEST MANUFACTURER OF AUTOMOBILE TRANSPORT TRAILERS

Guard Against Tire Abuse!

DEALER WILL SHOW YOU HOW

Have Your Worn Tires Renewed by the Factory-Control Kraft System That *Guarantees Uniform Quality*

In three years, the Kraft System has proved to operators from coast to coast that its factory control methods provide the first assurance of uniform quality tire renewing. From start to finish, every tire Kraft-Renewed locally is handled exactly as at the factories of The General Tire & Rubber Company. Every step is checked by scientific Kraft instruments. No guesswork. Every renewed tire is balanced like a new tire. Only the Kraft System renews tires by these factory controls:

- Factory-Trained Men
- Factory-Approved Equipment
- Factory-Specified Methods
- Factory-Laboratory Control



Every Kraft-Renewed tire is thoroughly checked by the exclusive Kraft System curing gauge. This pre-proves the tires' wearing qualities and assures safe, dependable mileage.

GENERAL TIRE
Factory Control
KRAFT SYSTEM
TIRE RENEWING



With Every Tire Certificate Buy a Long-Mileage GENERAL

The ability of General Tires to deliver long mileage—proved on the books of leading operators for 26 years—has gained new importance. Today, when you use a tire certificate to buy a General Truck Tire, you are making that certificate produce the maximum, in terms of the continued operation of your fleet.

(CONTINUED FROM PAGE 66)

All of our drivers in charge and driver-helpers wear a regulation uniform, which we seldom have to urge them to keep clean and well pressed. We do not insist that a new helper-driver purchase a uniform immediately after passing his driving tests and securing approval from the Supervisor of Drivers. He may have been out of work for a while and need his salary for other purposes.

We handle this business of uniforms through one or another of our

local clothing stores, having found from experience that this is more satisfactory. By this method the store takes care of all details of purchasing, physical handling and payment. All we do is approve of the material, the color and the tailoring; make sure that the price is fair to the men; the store does the rest. The average uniform consists of a total of two pairs of trousers, two shirts, one blouse, and one cap with two cap tops. Mason and Dixon furnishes insignia without charge.

Average cost of a complete uniform as listed above is a little less than \$30.00.

Our over-the-road drivers are under the supervision of the Supervisor of Drivers, who issues all special or unusual instructions in writing. In addition, our safety department, under Mr. W. D. McLain, safety director, maintains a safety patrol 24 hours a day over all of our routes.

From our point of view, safety on the highway is far more important than adherence to a schedule. Therefore our drivers are never spurred to make better time by increasing their travelling speed. For years our experience has shown that more time was lost through stopping to visit with other drivers en route, overlong stops for refreshments, etc., than because of slow driving. Drivers of our over-the-road equipment are explicitly forbidden to stop and visit with each other along the highway.

On returning from a trip the driver in charge and the helper-driver turn in a joint Driver's Trip Report covering total time consumed, total mileage, where and how much gasoline was purchased, number of deliveries and pick-ups, where lay-over was made, and for how long, and what their cash expenditures were. We are always willing to advance our drivers plenty of cash, knowing that they are absolutely trustworthy. On the back of the Driver's Trip Report there is a map of the territory served by our company, on which must be traced the route for each trip, coming and going. This report is in addition to the ICC Driver's Daily Log.

We try to select drivers who will try instinctively to treat the public courteously. Those who come in contact with them will probably agree that they avoid arguments and exercise patience and self-control under trying circumstances. It would be difficult to make us believe that one of them had made threatening gestures or used profane language. What's more, we try to select drivers who don't need to be told never to delay other vehicles on the highway unnecessarily; to pull off to one side and allow following vehicles to pass at the first safe opportunity; to avoid frightening pedestrians or other motorists; to void driving in such a manner as to splash pedes-

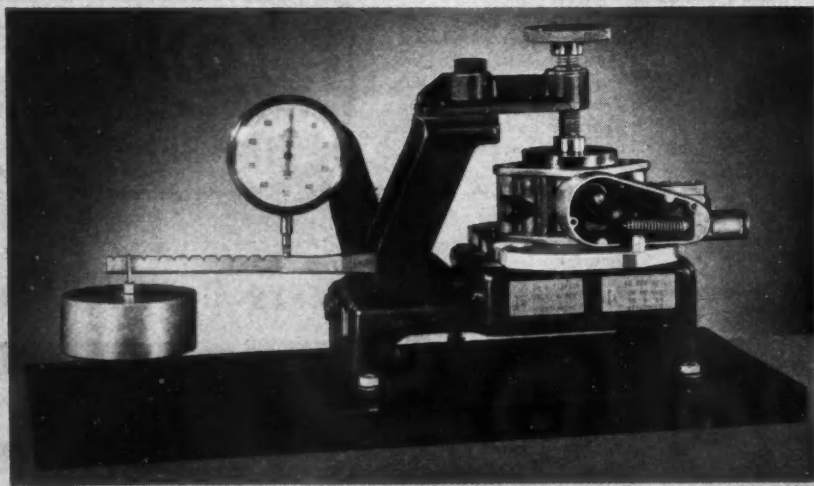
(TURN TO PAGE 74, PLEASE)

Here's how to "GET THE MOST OUT OF WHAT YOU HAVE"

The economies arising from engine protection through the use of Governors are vital—they warrant keeping your Governors in top condition.

Although disassembly and replacement of necessary parts can be accomplished by any trained mechanic, almost invariably incorrect tension and calibration result unless the proper equipment is employed. Efficient Governor performance depends on accurate calibration.

Your authorized Handy Governor distributor has the necessary calibration equipment, the factory trained personnel, to do accurate, efficient and economical Governor service. Take advantage of this and let him place your Vari-Speed and Visible Action Governors in peak condition.



KING-SEELEY CORPORATION • Ann Arbor, Michigan

HANDY *Visible Action* GOVERNOR

World's Largest Manufacturers of Automotive Governors

AVING ITS TRUCK TIRES



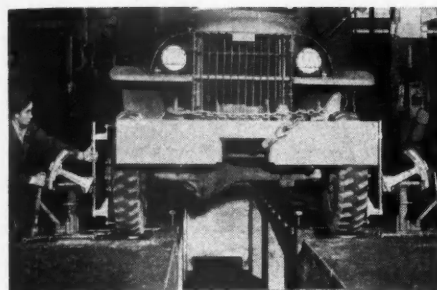
Instruction in the same basic principles of tire maintenance that have doubled the tire mileage of many commercial fleet operators, is given at the Army's Quartermaster Corps Bases. The class instructor pictured here is one of the members of the United States Rubber Company's Field Engineering Service Division.



Tires Are Examined on the spreader, at frequent intervals, to locate the hidden damage to tire cords which often results in a blowout. Tires must be examined outside every day for tread cuts, bruises, breaks, stones, pieces of metal—all causes of tire failure which, if caught in time, can easily be taken care of.



Tubes Are Inspected regularly, for if they fail, tires may be damaged and trucks put out of action. Leaks must be patched correctly; broken or cut valve stems replaced. Army men are taught that tubes must be mounted correctly, otherwise buckling, chafing or pinching will quickly ruin them.



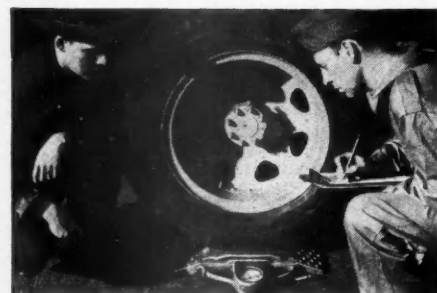
Wheels Are Lined-Up on the wheel-aligner, carefully balanced and the brakes kept in adjustment—otherwise the tread will be rapidly ground off in wavy spots. Constant inspection must be made to discover uneven, spotty or cupped tread wear—a sure sign that something is out of mechanical adjustment.



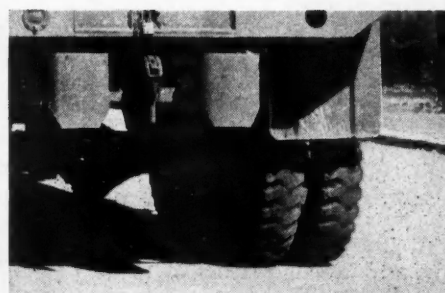
Daily Inflation Checks Are Vital. The Army has learned that overinflated tires wear rapidly in the center of the tread, bruise easily and suffer great strain at the beads. Underinflation causes rapid tread wear at the shoulders, tends to break down the carcass and permits the tire to be easily crushed.



Speeds Must Be Kept Under 40 Except in combat or in emergencies. Army drivers are taught that a 10-ply tire wears twice as fast at 60 as it does at 40 m. p. h.; that they must start and stop slowly, use brakes carefully, shift into gears on hills and slow down on turns to avoid waste of rubber.



Use the Right Tire for the Load. The Army Quartermaster Corps avoids *overloads*—greatest single cause of truck tire failures. By weighing truck and load on the loadometer, proper load distribution can be figured to avoid overloading any tire. A 20% overload cuts a tire's life by 30%—often causes serious breakdowns.



"Match Your Duals" is a "must" in the Army to protect the *two inside* tires from the carrying of a load that should be distributed evenly over all four tires. Proper rotation of tires helps to solve this common "headache": Put new tires on front; least-worn tires on outside duals; most-worn tires on inside duals.



"When" to Recap Is Important. The best time to recap is before the tread wears too thin. This assures a good foundation under the new tread (or recap) that helps protect the carcass from bruises. A tire worn clear through the tread to the fabric, ruptures easily, making it necessary to scrap tire. The Army recaps "in time."



U. S. INDEPENDENT DISTRIBUTORS ARE EQUIPPED FOR COMPLETE TRUCK TIRE SERVICE

U. S. Distributors are proud of their skill in servicing truck and bus tires, for today, the maintaining of essential motor transportation is vital to the war effort. This doesn't mean just the Army and the Navy, but *all* essential transportation! It's

a definite responsibility of each U. S. Distributor and he has geared himself, his organization and his facilities to meet it... Let your nearest U. S. Distributor present a definite plan for *your* fleet. You will find it interesting and profitable.

DON'T DRIVE OVER 40 MILES PER HOUR

RUBBER COMPANY

(CONTINUED FROM PAGE 72)

trains or passing vehicles with mud.

Our drivers have been trained to extend courtesies on the highway and the result of this practice has been numerous letters complimenting various drivers for helping some private driver in difficulty. Another good thing about our drivers is that they are habitually free of financial troubles. We discourage installment buying. If drivers can't pay cash for some needed item, they can borrow the money at low rates from our

Mason and Dixon Employees Federal Credit Union, pay the store in full and pay back the Credit Union with automatic salary deductions of small amounts, saving excessive installment plan charges.

We also offer and urge the acceptance of our voluntary Group Hospitalization plan, as well as our Group Life and Accident Insurance—all at rates well within the means of our drivers.

As may seem obvious, we are quite proud of our drivers and of

their records of service. We do not claim any credit for the fact that practically all of them are conscientious, dependable men.

Mr. King, our president, has pointed out that it is not because of the training they get from Mason & Dixon that drivers are courteous to the public and careful of company trucks. It is because they are naturally responsible men proud of their jobs and the company. Our drivers are superior men to begin with and all we have done is look for men of their type.

END

(Please resume your reading on p. 26)

"FIRE POWER" —PLUS!



■ On the "firing line" at home and abroad Edison Spark Plugs are helping to deliver every last ounce of power. Built to operate in all heat ranges, Edison Plugs are made for every type of truck—gasoline or Diesel . . .

When you install Edison Spark Plugs, you are contributing greater efficiency to your fleet. You're helping to save gasoline, too—ammunition which *must* not be wasted! They cost no more.



Edison SPARK PLUGS

EDISON-SPLITDORF CORP., WEST ORANGE, N. J.

PM FOR DELIVERY FLEET

(CONTINUED FROM PAGE 48)

radiator, brakes, rear axle and wheels. Under each of these headings are several check items. The report is turned over to Mr. Brown who checks it and then assigns a mechanic to the work.

The mechanic picks up the truck and takes it into the garage where preparations are made to start repairs the next morning. This work is recorded on a time report form which is later transferred to the master cost record.

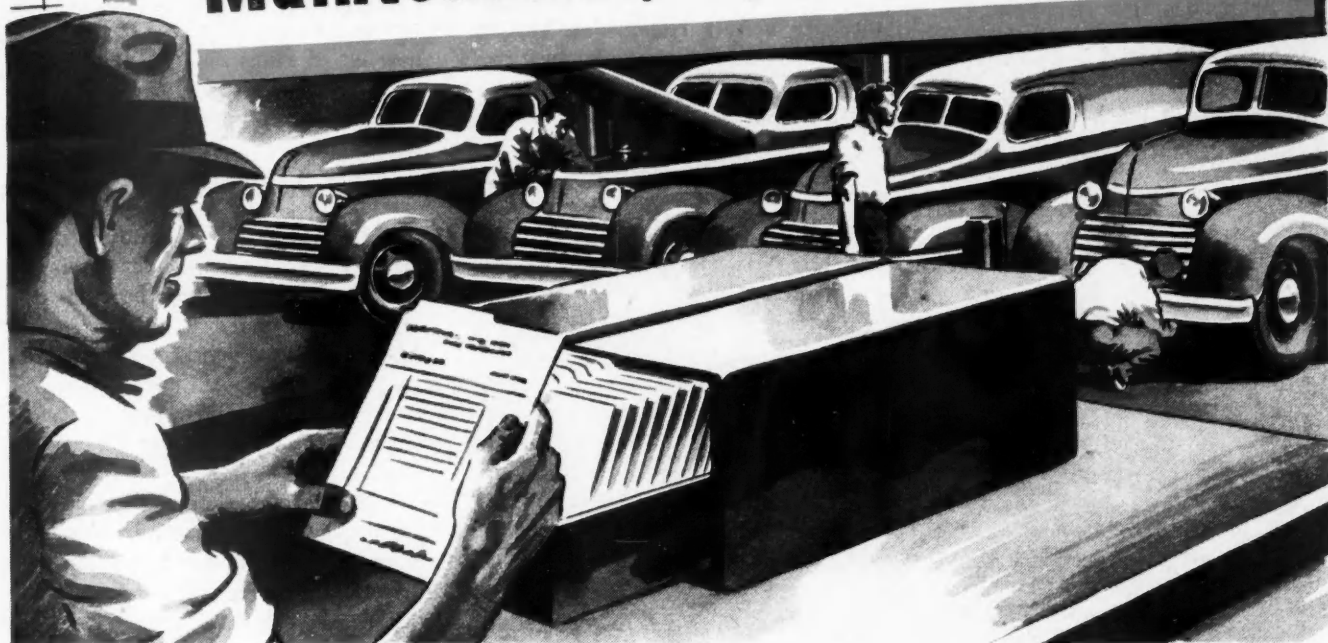
Tires are checked for inflation once a week by drivers who must fill out a form indicating the pressure and condition of each tire. That is as much of the tire problem as has been the company's heretofore. By watching pressures and condition of tread for abnormal wear due to misalignment, as much mileage as possible is obtained from tires.

Complete PM inspections take place once monthly, regardless of mileage and the inspections are so staggered that about one-quarter of all units are inspected weekly. In event that a truck scheduled for a major inspection cannot be in the shop on the appointed day, it is allowed to run into the next day and the next truck due for an inspection is called off the road.

When a truck goes into the shop the inspection is checked against a PM form listing 38 items grouped under the main headings of engine, cooling system, front end, steering.

(TURN TO PAGE 76, PLEASE)

Records Prove FRAM Cuts Maintenance, Operating Costs



A FRAM on Every Motor Keeps 'em on the Road Longer

Shop records do not lie! In thousands of instances they show that Fram positively does keep equipment on the road longer—increases life of motor parts—cuts overhaul time and costs—saves oil and motors. As a result, maintenance men write us "200,000 miles between re-boring jobs"—"Engine wear reduced to 50%!"—"Oil mileage increased over 200%." These are just a few of the many comments received from taxi, bus and truck fleet maintenance managers.

Install Frams on *your* cars, trucks or busses while you

can still get them—without risking a penny. Here's Fram's Guarantee: Equip your fleet with Frams. Keep your own records and operate for 90 days. Then if *you* are not convinced that Frams save their cost many times over, we'll gladly refund your money. Get the Complete Fram story now. For full information write to: Fram Corporation, Providence, R. I.

"How's Your Oil Filter?"

THE DIP-STICK
TELLS THE STORY

if your fleet already has oil filters



You can get a genuine Fram Cartridge for most makes of filters. A Fram Cartridge does what no non-chemical cartridge can possibly do. In addition to filtering out dust, grit, carbon and sludge, a Fram Cartridge impedes formation of acids and corrosives—and that means extra savings on motors and parts.

"Care for your car—for your Country"



(CONTINUED FROM PAGE 74)

rear end, wheels and brakes, body, ignition, and general. If inspection shows that starter or generator, fuel pump, carburetor or distributor need overhauling, the parts are simply removed and replaced with exchange units. Starters, generators and carburetors are repaired in the shop; other units are sent out for factory replacement.

A spare differential is also carried in the shop for emergency replacement in the oil trucks as these re-

ceive the most intensive use and must be on the road every day. Repairs are made after truck inspections are completed. Transmissions are also replaced and the worn units rebuilt in the shop between inspection periods. To date, clutches are seldom relined, the company preferring to replace worn plates.

Closely watched lubrication schedules are mainly responsible for the company's excellent maintenance record. Oil changes are made every 2000 miles. All trucks have oil fil-

ters whose cartridges are changed approximately every 6000 miles.

The nine tank trucks are lubricated every two weeks regardless of their mileage and if there has been an excessive rainy spell, lubrication might be more frequent. Other vehicles are greased once a month, when the truck is turned over to the greaser after inspection.

The fleet, on the average, gets a new set of rings about every 40,000 miles. This work is done in the shop. Cylinders are rebored at 80,000 miles on the outside. This mileage figure is fairly constant, although occasionally they run across a soft block and reboring may have to be done more frequently. Despite the mileage, if oil consumption becomes excessive (two quarts daily), rings are replaced—at which time cylinders are miked to check on their wear. Bearings are replaced, regardless of their condition, whenever an engine is rebored.

Brakes are checked with each major inspection and are nursed along between inspections according to drivers' daily reports on their condition. Brakes are relined in the shop and Fleetman Brown makes a practice of using woven lining on the oil trucks and molded lining on the other vehicles. He holds the opinion that woven linings give better mileage on heavier type vehicles.

The tractor-trailer units are inspected under the same monthly program and lubricated twice monthly. Trailers are greased once a month and checked for condition of bed plates, pins in the fifth wheel, coupling, etc.

All powered units are gassed nightly by the washer. The nature of the entire operation has made it possible to determine exactly what gas and oil mileage to expect from the various units. Consequently, if a truck begins to require two gallons of gas more daily, they give the engine a tune-up check and all gas lines and connections are inspected.

The company is proud of its service record and attributes its ability to keep practically all its vehicles on the road to its thorough PM program modified, as described, to fit the needs of curtailed department store trailer, bulk and transfer operations.

END

(Please resume your reading on P. 28)



DON'T GAMBLE THE SAFETY OF YOUR TRACTOR AND TRAILER

PLAY SAFE!
PLACE FULL EMPHASIS ON YOUR SELECTION OF COUPLERS
CHOOSE THE A.S.F. Safety FIFTH WHEEL
• GRAVITY TYPE LOCKING MECHANISM
• GREATER KING PIN GRIP
• FOUR WAY SAFETY FEATURE
INSURE Safety WITH

A-S-F-FIFTH WHEEL
AMERICAN STEEL FOUNDRIES
EAST CHICAGO, IND.

RELY ON BOWERS'

Dependable Power

**for the MOVING
of men and materials**

SOLD BY BATTERY ENGINEERS WHO KNOW YOUR BATTERY NEEDS

Bowers Batteries are sold by SKILLED BATTERY ENGINEERS who come into your plant, roll up their sleeves and go to work studying, analyzing and testing your battery setup. After all, your fleet is different. Your runs are different. And our first consideration is to specify THE BEST BATTERY TO FILL YOUR INDIVIDUAL NEEDS!



THE NEW
BOWERS
CERAMITE SEALED
SPARK PLUG
is putting MORE SPARK
into Uncle Sam's
DEFENSE NEEDS

*T*ODAY'S HIGHWAYS are alive with trucks and buses on vital errands . . . directly or indirectly concerned with the nation's tremendous war effort. To keep their fleets moving without interruption . . . more and more maintenance men are switching to BOWERS "DOUBLE DUTY" BATTERIES. We invite, and URGE you, to let us PROVE that this better built battery, designed and built especially for tough replacement requirements, will save you operating costs!

BOWERS



BATTERY AND SPARK PLUG MFG. CO., Inc.

MAIN PLANT: READING, PA.

CHICAGO PLANT: HARVEY, ILL.

CONSERVATION CORNER

(CONTINUED FROM PAGE 30)

rubber stocks, driving practices must be adjusted to conform with approved tire conservation rules.

These rules, drafted by government experts, emphasize the President's request that speed be kept under 40 mph. Driving at excessive speeds is extremely wasteful of rubber due to tire slippage and vehicle sway. Speed also causes breakdown

of the fiber cord because of heat accumulation within the casing. Fast driving is particularly injurious to tires on rough uneven roads and on curves.

Maintenance of proper air pressure in the tires is vital. A tire 30 per cent underinflated will give only half the normal tire wear, it was pointed out. Truck drivers are urged to check air pressure every day to be sure pressure is at the proper level.

Overinflation is likewise danger-

ous and should be guarded against. The tendency of some truck operators to overinflate tires to compensate for overloading is definitely injurious to the tread and tire casing due to the added danger of breaks and blow-outs. The practice of partially deflating tires when they become overinflated as a result of heat action is condemned because it results in greater tread wear and tire failure.

Overloading is second only to high speeds as a cause of rapid tread wear and premature truck tire failure. It should be guarded against to prevent impact breaks, bead failures, and flex breaks. Forty per cent overload—not an uncommon practice today—can reduce the mileage wear of a tire 50 per cent. In other words a tire made to last 30,000 miles will give only 15,000 miles if consistently overloaded 40 per cent.

The rules also call for regular attention to tire valves and valve caps. Drivers are urged never to drive without valve caps to prevent slow air leaks from tires.

Conservation Programs Planned

Joseph B. Eastman, Director of the Office of Defense Transportation, has set up a staff Division of Transport Conservation to administer the new duties given to the ODT by the Executive Order recently made public by the White House. This Order gives ODT authority to "develop programs to facilitate the continuous adjustment of the Nation and its transport requirements to the available supply of the transportation services relying upon rubber."

John R. Turney, who has been Director of the ODT's Division of Traffic Movement, has been named Director of the Division of Transport Conservation. Henry F. McCarthy, who has been Associate Director of the Division of Traffic Movement, will succeed Mr. Turney as Director.

Mr. Eastman stated that it will be the duty of the new Division of Transport Conservation to formulate policies, programs, and measures for (a) the continuous adjustment of national transportation requirements and the transport service available therefor; (b) the conservation of automotive vehicles, tires, fuel, and other materials; and (c) the conservation and distribution of transportation service and, to the extent necessary, restriction to essential needs.

(TURN TO PAGE 32, PLEASE)



CONSERVATION ... VITAL TO VICTORY!

Smooth, positive brake action is essential to longer tire and vehicle life. And that's the kind of conservation that will contribute to victory.

To insure such brake control, reline with GRAFILD ... the complete line of Friction Materials that are scientifically engineered for each type of brake. For only then can you have that *certain* feeling.

WORLD BESTOS CORP., Paterson, New Jersey

ROLLS • SETS • SLABS • BLOCKS • CLUTCH FACINGS

EVEN TRUCK LIGHTS ARE ARMORED NOW!



• Anything that increases the efficiency of our vital truck transportation system is a patriotic duty. From powerful motors to "little" clearance marker lights, all must keep working.

K-D has designed a clearance and side marker light that's *Armored*. Blows glance right off its specially designed heavy cast metal housing. designed heavy bumps skid past harmlessly.

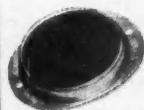
Side swipes, scrapes, backing bumps are locked in one compact Housing, lens and screws are locked in one compact assembly . . . nothing drops when changing bulbs on the road. A separate steel back plate with rubber shock pad and damp resisting fiber gasket secures lamp to truck body, making it almost impossible to sheer off. Fresnel "light-house" type lens gives high 180° visibility with economical 2-C.P. bulb.

For the duration lamp breakage, unnecessary road delays, unsafe lighting must be out. Talk to lighting headquarters—your K-D Jobber. He stocks the right light for the right job—a complete "highway-engineered" K-D line.

THE K-D LAMP COMPANY, CINCINNATI, OHIO
Export Address: 280 Broadway, New York, N.Y.

K-D LIGHTING

*The Right Light
for the Right job*



Super-power 3" Plastic Reflector—over ¼ mile visibility. Smack-proof. Exceeds all requirements. Models 333-334 list 90c.



Flat Surface Mounting Lamp—Brilliant visibility. No. 539-A lists 58c. No. 539-C lists 90c.



Stop Lamp—Extra large 7" lens stop lamp. No. 254-F lists \$3.25. Bracket mounting lists \$3.80.



Comb. Clearance and Side Marker—Streamlined. Flat or curved surface models. No. 517 lists \$1.10 up.

(CONTINUED FROM PAGE 80)

The program, policies, and measures formulated with the help of the new Division will be carried into effect in part through established Divisions of the ODT, where the authority is possessed by the Office, and in part through other agencies of the Government, especially the local rationing boards of the Office of Price Administration.

The Division of Transport Conservation is expected to work in close cooperation with the Office of Petro-

leum Coordinator and the Branches of the War Production Board and the Office of Price Administration dealing with rubber, gasoline and passenger cars.

"The present supply of automotive vehicles and particularly rubber tires constitutes a national and not a private resource," Mr. Eastman said. "The rubber shortage is a grave reality. Rubber must be conserved. Every owner of a motor vehicle in public or private service should realize that he holds this vehicle in trust

for the national war effort and that it should be used only for purposes of necessity."

Mr. Eastman pointed out that he had already asked the Governors of every state and the Mayors of all cities above 10,000 population to mobilize local forces for a drive to insure the continued operation of all local transportation facilities through (1) systematic staggering of business, school, and working hours, (2) group riding in private automobiles on a planned neighborhood-by-neighborhood basis, and (3) improved regulation of local traffic to make possible more efficient movement of passenger vehicles. He added, however, that such a program could be made effective only through the wholehearted cooperation of every citizen.

Salvaging Worn Parts

Much can be done to avert possible shortage of replacement parts for trucks and busses, according to John L. Rogers, Director of the Division of Motor Transport, Office of Defense Transportation, through conservation and rebuilding of worn parts by methods known and practiced by many fleet operators.

"The Maintenance Section of the Division of Motor Transport," said Mr. Rogers, "has offered valuable suggestions, all based on long practical experience in parts rebuilding, which we feel should be studied and put into practice by truck owners and garages servicing automotive equipment."

Among the typical parts reclaiming procedures suggested are the following:

1. A drive shaft, worn at the joints because of neglect, need not be scrapped. It can be rebuilt. Two new universal joints to replace the worn parts may be welded to the old tubes to make a serviceable assembly. If the splines on the old tubes are worn they can be plated to any desired thickness to compensate for the wear. Thus, two new joints, a minimum amount of welding wire and plating material suffice to reclaim an entire propeller shaft assembly.

2. A crankshaft, so worn at main or connecting rod bearing surfaces that a regrind to a smaller available standard size is impossible, need not be scrapped. The mechanic who is

(TURN TO PAGE 84, PLEASE)

WHY EDWARDS TRAILERS ARE PROVING THEIR METTLE NOW

THIS war is making exacting demands on the haulage equipment that is a valuable cog in America's all-out will to win. And Edwards Trailers are really proving their mettle.

No wonder. For Edwards Trailers are designed and built with ability to carry payloads beyond the limits ordinarily imposed in normal times. Such an extra margin of ability is worth much at any time—more in these.

DEALERS! INCREASE YOUR SALES VOLUME

Edwards Trailers today offer an opportunity to recapture a good part of your sales volume. Now is also the time to really establish yourself permanently in the field. Your present equipment is all that is necessary to service Edwards Trailers. Attractive proposition. Write or wire today.



EDWARDS SEMI-TRAILERS

EDWARDS IRON WORKS, INC., SOUTH BEND, IND. Meet Present-Day Demands

You get only what you pay for — You can get less. There's harder hauling ahead with America warring for Victory. Get what you pay for in bearings—insist on genuine Timken Bearings.

It's far easier to concoct an argument on why some bearing is just as good or even better than a Timken Bearing than it is to manufacture a bearing that will equal or out-perform it. If the Timken Bearing was not head and shoulders above its field in performance you would not find it predominately used in all hard points of applications in modern trucks and busses. These manufacturers buy bearings on "performance-per-dollar" basis.

You cannot go wrong in following their example when you buy replacement bearings or any other replacement parts. Get what you pay for—not less.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

TO ASSURE VICTORY
 BUY UNITED STATES
 WARREN DUBOIS & STAMPS

(CONTINUED FROM PAGE 82)
familiar with the process known as metal coating can reclaim the shaft with excellent results. This process has many possibilities in the automotive field for the purpose of replacing worn material. Only a few simple rules must be followed to assure complete success. Sprayed parts must not be stressed excessively. There should be no fatigue cracks in the foundation to be sprayed. Preparation of the foundation should assure keying and dovetailing deep enough

to withstand any mechanical pressures involved. The foundation material must be clean and free from oxides, oil, dirt and water. The sprayed metal must be atomized finely to insure the molten particles being small enough to penetrate the openings in the prepared foundation. Preparation of the foundation is accomplished by blasting with a special grit or machining with special tools. Hardened surfaces must be removed before preparation.

The worn bearing areas should be

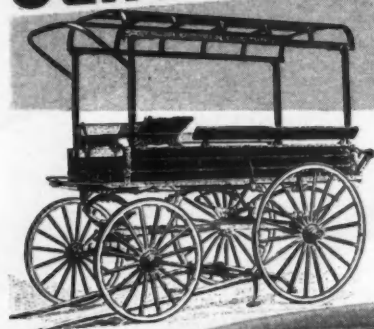
ground to the desired depth to assure uniform thickness of the finished sprayed material. The undercut surface is then shot blasted or machined. The prepared area is sprayed with the metal selected and the coated area is then finished by grinding or machining to the required size. By this method an expensive crankshaft may be reclaimed and brought back to its original dimensions at one-third the cost of a new shaft.

3. Valve faces, after several grindings, may lose enough material to reduce the valve-head dimensions to the point where they seat too low in the cylinder head or block. Hard surfacing materials can be welded to the valve face in much the same manner new aviation valves are made. This method of reclamation restores the valve to its original dimensions and provides a hard, heat-resistant face.

END

(Please resume your reading on p. 31)

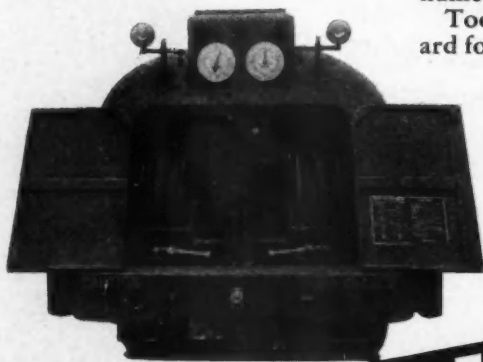
SERVING TRANSPORTATION FROM *the Whip Socket Era* TO *Blitz Buggy Days*



The Eberhard career began 39 years ago when its engineers improved and standardized numerous buggy and wagon hardware items that formerly were laboriously produced individually by blacksmiths.



AIRPLANE
REFUELING
TRUCK



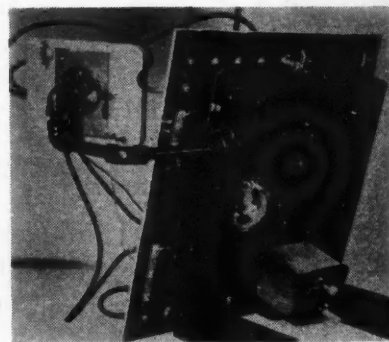
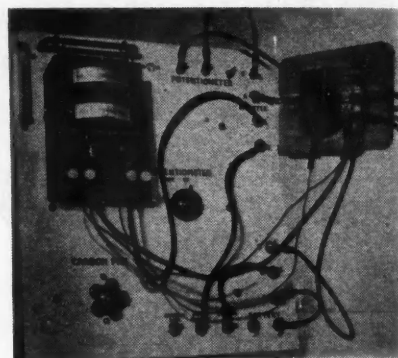
When automobiles and motor trucks superseded horse-drawn vehicles Eberhard engineers again pioneered in the development of locks, hinges and numerous other standard products.

Today, many of these items, in standard form or with slight modifications, are being installed on war equipment or are serving on thousands of freight trucks behind the lines: and the Eberhard factory is devoting an ever-increasing amount of its efforts to the production of special equipment for navy, air corps and army.

EBERHARD

MANUFACTURING CO.

DIVISION OF
THE EASTERN MALLEABLE IRON CO. • CLEVELAND, O.



In line with its efforts to aid fleet operators "keep them rolling," the Electric Auto-Lite Co. suggests the use by fleet shops of a general utility panel such as that shown above. This shop-made affair is used to check and set voltage regulators, open and close circuit breakers, horn relays, transmission control relays and for testing a voltmeter and ammeter against a standard meter. Following parts are required: 1/2-in. Masonite panel 27x30 in.; thermometer of 20 to 120 F. range; 1000-watt carbon pile (intermittent duty); potentiometer of 3 amp., 50 ohm; two pieces 1/4-in. pipe 8 in. long and two elbows; hanger for volt and ammeter set; wet cell battery; two support brackets. Auto-Lite, Toledo, O., will send drawings of the panel free for the asking.



KEEP HORSEPOWER

In there pitchin'!

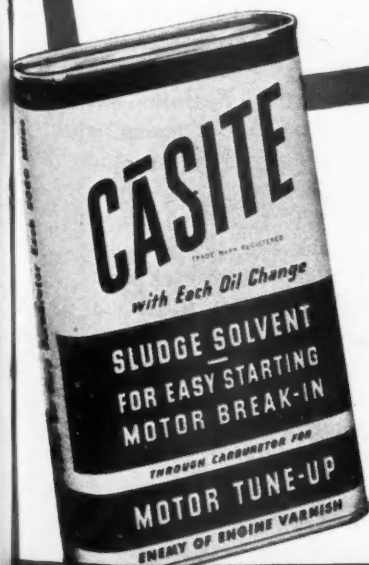
● Now, more than ever before, it's important that cars and trucks operate efficiently. Engine life must be conserved, undue wear must be avoided... your engines must be kept in there pitchin' all the time.

Now you can accomplish these very things for your customers, easily and economically—with Casite. Casite cleans out sludge and gum

from vital areas and keeps them out. And Casite's oil-carrying ability improves lubrication, thus cuts down wear.

You'll get longer life, fewer repairs and greater fuel economy, if you use Casite all the time. Keep Casite in every motor. Your maintenance records will prove its value.

THE CASITE CORPORATION, HASTINGS, MICHIGAN



CASITE

CLEANS OUT MOTORS
KEEPS MOTORS CLEAN



A PINT THROUGH THE CARBURETOR EACH 5000 MILES • A PINT IN THE CRANKCASE WITH EACH OIL CHANGE

MARIE JONES

(CONTINUED FROM PAGE 33)

step just as you would in putting together a piece of machinery or building a house. And you use dependable equipment and mechanical power. Furthermore, a heavy load doesn't shift so easily on the trailer bed.

With the added new equipment, more and heavier jobs came to us. We were hauling cranes, shovels, draglines, boilers, condensers, river

barges, tanks, booms, in fact about everything you can think of that's big and loose on both ends.

The first boat we ever hauled was 64 ft. long, 17 ft. wide and 8 ft. high. It weighed 75,000 lbs. That first one was a problem but since our "maiden voyage" we have moved a great many boats of all kinds, and some of them for long distances. We fasten them down with wire rope and turnbuckles and load and unload them with the power winch.

Once I was moving a big river

barge. One motorist, seeing me, was so excited he ran off the road and into a ditch. Perhaps he'd had a little too much celebration the night before because when I stopped the tractor and got out he was just standing there with his hand on his head. When I asked him if there was anything I could do to help him, he said, "Nope, but Ill swear, Girlie, I thought you was the Jap navy."

One of the most interesting jobs I have ever had was setting up a wrecked refrigerator transport. Father helped me on this and we fastened cables on the back wheels of the tractor and on the trailer and threaded the winch line through the snatch blocks. The outfit came up and settled on its wheels with the ease and grace of an old lady in a rocking chair. It was really a wonderful sight.

There is something real and fine about handling the winch and wire rope and seeing a great load eased into position with perfect timing and accuracy. I wouldn't want to be in any other business.

Last fall, at the request of the Government, we leased our 35-ton unit to a construction company doing work at the new Army camp at Neosho, Mo. With it gone, we seemed lost and impotent. One evening when father and I returned from a job where we used three units to do the work that could have been done by the big truck in a single trip, father announced we would either buy or build another big trailer. We found that because of government priorities for machinery to do government jobs, it was practically impossible to buy a trailer of our type. So father set about building one, and right in our own shop, too.

We drew the plans modelled after the other trailer and went to work. We did all the steel cutting and electric welding in our own shop, and in less than a month the new trailer was ready for the road. This trailer is lighter than the one at Neosho, Mo., it being about 20-tons. It has three 10-in. I beams and two 12-in. channels. The I beams are used for supports with the channels on each side. It is 26 ft. 6 in. long, 8 ft. wide, and 31 in. from ground to deck.

I did all the electric welding on the new trailer. I have been studying welding for sometime and hope soon
(TURN TO PAGE 88, PLEASE)



A NEW WAY TO
SLASH
FLEET COSTS

- INCREASES COMPRESSION UP TO 25 PER CENT
- INCREASES POWER OUTPUT
- INCREASES GAS MILEAGE

NATIONAL SAVIT SERVICE

Our simple demonstration made on one of your trucks shows how compression can be increased up to 25 per cent . . . how power can be improved . . . how fuel consumption can be cut!

SAVIT Service removes gum, sludge and varnish . . . freeing rings and valves for increased motor efficiency.

Let us show you how SAVIT Service gives you —
First: MAXIMUM PERFORMANCE
Second: LOWER OPERATING COSTS

For free demonstration write to
THE NATIONAL REFINING COMPANY
Room 520, Hanna Building, Cleveland, Ohio



Erving Galloway

TOUGH BRAKE LINING PROBLEMS LICKED THROUGH AMERICAN BRAKEBLOK ADVISORY SERVICE



- 1 American Brakeblok "Regular" Brake Lining for manually operated braking systems.



- 2 American Brakeblok "1000 Series" Brake Lining for vacuum-booster braking systems.



- 3 American Brakeblok "2000 Series" and Thick Blocks for airbrake equipment.

YOUR own experience probably proves one type of brake lining may do an efficient job in many cases, but it often leaves you with the "problem jobs." It's those jobs—the special equipment, the harder service routes, the cranky set-ups—that our engineers study and handle through *three types of heavy-duty linings* when you use American Brakeblok's free Brake Lining Advisory Service. Ask your American Brakeblok representative, or write us.



"Look for me—American Brakeblok's Stopper the pup—in your national magazines, telling folks about good brakes."



Master stocks in
38 NAPA Warehouses.
Jobbers everywhere
give prompt service.

American Brakeblok BRAKE LINING

American Brakeblok Division of The American Brake Shoe & Foundry Company, Detroit, Michigan

(CONTINUED FROM PAGE 86)
to become an expert welder. I feel that in this field, as well as in hauling, a girl can take her place along with men. There may come a time when a great many of us will have to learn to do a man's work.

On our first job with the new carry-all we took out two 8-ton ammonia condensers and put in two 10-ton units. The condensers rested on a foundation four feet from the ground. We erected a 12-ft. gin pole, then ran our winch line from truck to pole.

I am proud to be able to take the place of a man as a truck driver. In doing my work I know I am releasing men for more important war work. It may be that other fleet operators may eventually be required to hire women to replace men drivers. If they ever do, I can give them some valuable tips.

For instance, people want to know how women truck drivers should conduct themselves among men drivers. There are two things to remember when working with men. First, un-

less you conduct yourself as a lady, the men can not be expected to respect you. If you are careful of your conduct, it has been my experience (and without a single exception) that the men working with you give you every respect and consideration. The second thing to remember is that you are hired to do a job and because you are a girl instead of a man, is no reason for not doing your share of that job. With the aid of modern power equipment, there is no reason why any girl who has learned the trade cannot carry her full share of the load. Doing your full part always creates respect.

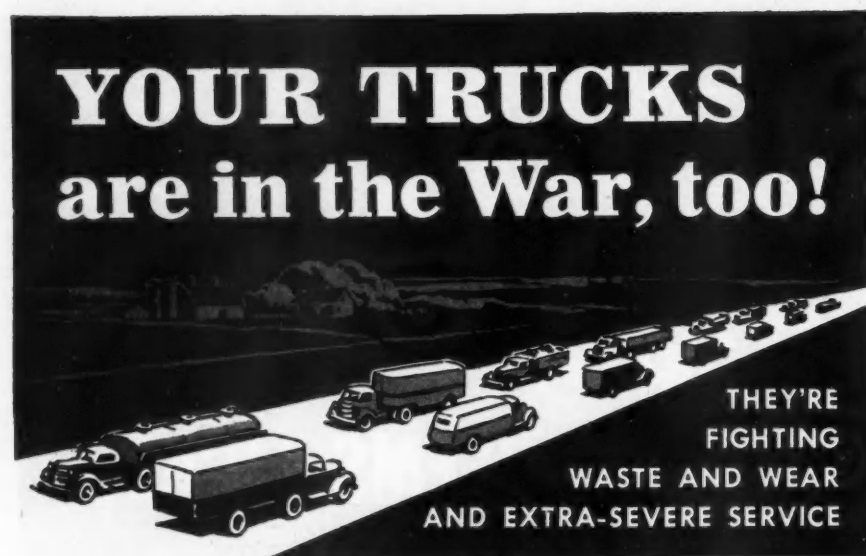
Any girl who handles a man's job, and especially as masculine a one as operating a 35-ton truck, can expect to be kidded by men working on the same job. However, I have found that as soon as the men learn that you can carry your share of the load, and that your trucking work is a job and not a gag, kidding stops and there's a spirit of good fellowship. It is my honest belief that men do a better job when there is a girl working with them. There is a feeling of friendly competition, and another thing—the men want to show the girl that they know what they are doing and can do a top job.

Every girl knows how to get along with men, whether working or playing. I believe it's a matter of whether she wants to get along, rather than knowing how to do it. I have found that if you conduct yourself as a lady and are always careful to let the men know that you are willing and ready to do your share of the work, you will need no guard against men.

Truck drivers are not necessarily rough men because they do rough work any more than a girl need be a roughneck because she works at a rough type of work.

Besides her conduct, a girl must watch her clothes. The proper attire for a woman truck driver is of concern to other drivers, the woman herself and the fleet operator. Thus, I consider correct clothes important for the job. In the winter I wear heavy long underwear, leather boots, boot pants (a type of riding pants with more room in the seat, giving easier movement), an all-wool shirt, and a wool Mackinaw. I wear a scarf tied over my head to protect my hair. I have found that this outfit gives me

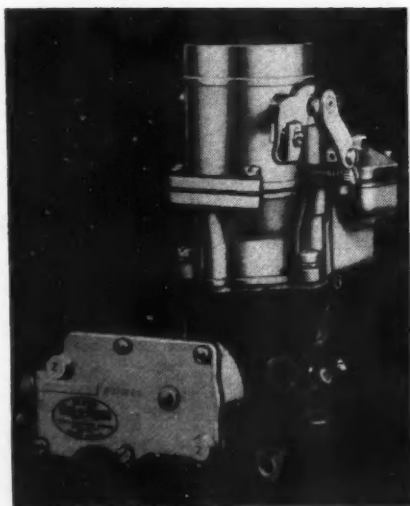
(TURN TO PAGE 90, PLEASE)



YOUR TRUCKS
are in the War, too!

THEY'RE
FIGHTING
WASTE AND WEAR
AND EXTRA-SEVERE SERVICE

ZENITH GOV·U·RETOR



can definitely
save you money,
prolong the life
of your trucks
and increase safety

*May we
send you all
the facts?*

ZENITH CARBURETOR DIVISION
BENDIX AVIATION CORPORATION
696 HART AVENUE DETROIT, MICHIGAN



The Gas Wasted
by
**"RIPE TOMATO
ACCELERATION"**
would keep 105 cruisers
on patrol duty*

A soft, squashy accelerator is more than a petty annoyance these days. It's one symptom of "Ripe Tomato Acceleration"—that serious engine condition which actually wastes enough gasoline every month to keep a force of 35 cruisers on patrol duty all summer!

You know the other symptoms of "Ripe Tomato Acceleration". One is a gluttonous appetite for oil. Another is the smoke-signal that constantly

* Based on a cruising speed of 15 knots, using 43 gallons of fuel per mile.

belches from the exhaust pipe. And you see these symptoms often: one out of every four cars, trucks and buses has them!

Can something be done about it? Yes! *Install American Hammered Piston Rings.* A-H is the one line with the right set-up for each engine condition—the only line with a POWER ring for the second groove! Koppers Company, American Hammered Piston Ring Division, Baltimore, Md.

FOR INCREASED POWER . . . DECREASED OIL CONSUMPTION . . . IMPROVED GAS MILEAGE, USE

American Hammered Piston Rings

a **K O P P E R S** product

(CONTINUED FROM PAGE 88)

the right feeling and allows me to do my work with the greatest ease. It is necessary to be dressed warm and at the same time have your clothing so cut that you are free to do all types of work.

When on the job I use a very light make-up. I have found that men, and especially the customer for whom you are doing the work, expects a girl driver to look well, but not made-up.

In summer I wear boys shorts, silk

gabardine overalls, and men's shoes (orthopedic), and the same scarf for my hair. My summer shirts are of linen or gaberdine.

I wear both cloth gloves and leather mittens, depending on the type of work to be done and the weather. I never work, even in the summer, without something over my hands.

It is a job to keep your hands nice when you are a truck driver and I've found hand lotion is an absolute necessity.

There is no need to say that looking

well is a priority for every woman. Every woman and nearly every man knows that. I do feel however that in this type of work, keeping yourself well dressed and your hands and face and hair lovely is doubly important. Somehow, men and women expect a girl who drives a 35-ton truck to have rough hands and unkempt hair. When you know that, you simply must take the best of care all the time. I think this care is a factor in obtaining the respect of your fellow workers, too. And of your customer.

Here is another thing—while it is not necessary to carry the truck-driver motif to clothes worn outside of work, I have found that care must be taken here, too. I try to see that my clothes are not out of line with my job. My new spring outfit is a dark blue dress, blue shoes, red hat and coat, blue bag, and gloves, all very simple but in a way, elegant.

I feel, if many girls were working on the same job, they would expect to wear uniforms. And I think that outfits something along the line I now wear would be suitable. Because I always wear the same type and color clothes when I work, my outfit is considered a uniform and I have noticed several girls who are doing rough work in Topeka, have adopted the same, or nearly the same type of work clothes which I wear—especially summer outfits.

END

(Please resume your reading on P. 34)

Right Now it's Win The War!



MILLIONS of fittings for use with copper, brass, aluminum and steel tubing are pouring out of the Imperial plant and into the production of army and navy air craft, naval vessels, army motorized equipment, and industrial tools.

As a result of this work the Imperial organization is unable to maintain the usual Jobber stock that has, in the past, enabled you to handle emergency work without delay.

Since conservation is now so extremely important we suggest that you salvage every possible brass fitting. Even those with rounded nuts and nicked seats should not be discarded until every possible effort has been

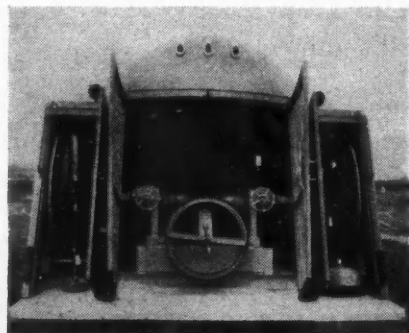
made to produce a serviceable connection.

Routine battery testing is essential if maximum battery life is to be obtained. An ample stock of Imperial Battery Hydrometers is still available and one or more of these hydrometers will help you reduce premature battery failures.

The importance of motor transport as an essential part of the war effort is very definitely recognized. The Imperial organization is going to exert every possible effort to help you keep going. However, if your Jobber is unable to give you the usual prompt service on certain Imperial items you will know that it's because right now the one thought ahead of all others is "Win the War."

THE IMPERIAL BRASS MFG. CO., 1209 W. Harrison St., Chicago, Illinois

IMPERIAL *Automotive Products*



No fancy gadgets adorn this fire fighter built by the Cardex Corp. for the Cramp Shipbuilding Co. on a 158-in. Mack chassis. A refrigerated tank holds three tons of liquid carbon dioxide under pressure for fire fighting purposes. Note rear view of the equipment department with doors open

LONG on Life



—because they are
built that way!

Willard's long-lived dependability is more than ever appreciated by the truck and bus operators who are responsible for the swift movement of the men and materials of war. Only the best is good enough for this essential task.

Willard Commercial Batteries are designed and built to rigid specifications for workmanship and material, and they more than meet S.A.E. requirements. You can always *depend* on a Willard for the power to carry on.

Exclusive "Safety-Fill" construction guards against destructive acid-spray and corrosion. Complete specifications on request.

Willard

SAFETY-FILL

COMMERCIAL BATTERIES

•have the power to carry on!

WILLARD STORAGE BATTERY CO. • CLEVELAND, LOS ANGELES, DALLAS, TORONTO

MAINTENANCE MUSTS

(CONTINUED FROM PAGE 36)

should be equipped to render the following essential services: tire inflation and inspection; wheel alignment; brake testing; headlight testing; systematic lubrication; fuel consumption checks; oil consumption checks; radiator checks and clean outs; systematic check of all wearing parts such as steering, brake drums and linings, belts, brake cylinders,

(including draining) oil filters, plugs, etc.; rebuilding or substitution of motors after a determined mileage; battery tests.

Some operators send major repairs to some outside repair shops. If this is done some method of check should be made to see that outside shops do the work contracted for and do it properly. By all means a mechanic should be employed for minor repairs and to look after the essential services I have mentioned, also to keep the very necessary records and

charts essential to any operation no matter how small that operation may be. This modern mechanic should be a service specialist, an expert in testing and inspection.

Standardization of trucks in the fleet enables the operator to standardize on parts and cut down on inventory that would be considerably increased if various models and makes of trucks are used.

One thing that worries a lot of our operators are road breakdowns and repairs. If proper inspections and repairs are made at garages these breakdowns can be reduced to a point where they cease to be a worry. What to do on these breakdowns is a problem. Whether to have repairs made on the road by outside garages or send out a service truck with mechanics. This problem boils itself down to costs. If repairs are minor and can be made by an outside shop cheaper than by sending out mechanics it should be done. But all major repairs should be accomplished by our own garage. All repair work on the road should be authorized by the proper authority who is able to determine the best thing to do under the circumstances. Any repair work done by outside garages on the road should be only of a nature sufficient to allow the truck to reach the terminal safely, and no more.

With the present rubber shortage and tire rationing the maintenance of tires is one of our most difficult problems and needs more care and attention than anything else. If we save wear and tear on tires we also save wear and tear on equipment. That naturally follows.

Probably our worst mistake comes from overloading or unbalanced loading of trucks resulting in blow-outs. If you have a blow-out now, your tire can not be recapped and loses considerable mileage. Replacement is problematical depending on rationing limits. All manufacturers have established research bureaus who constantly test tires for proper inflations and load limits. Charts are issued by these manufacturers indicating these limits and it would be well for operators to closely follow such charts.

Rotation of tires, matching tires on duals, cutting down on speeds, especially during hot weather, will

(TURN TO PAGE 94, PLEASE)

Take a Tip from CURTIS —

Here's the Way to Prolong the Life and Protect the Service of Your Air Compressors

Never before has maintenance of existing equipment been as important as it is today. Not only must you prolong the useful life of your cars and trucks, but also that of the equipment used for automotive servicing.

So many jobs depend upon air power that your air compressors must be kept in the finest possible condition. Here are some valuable tips on how you can extend the life of your Curtis Air Compressors.

CHECK INSTALLATION

Compressor should be in clean, dry, level, accessible, and well-ventilated place. Check to see if compressor and motor operate at recommended speed and in right direction. See that specifications of motor and connections agree with current and voltage available.

LUBRICATION

Maintain proper oil level and use recommended grade of oil. Keep oil off belts and other unlubricated parts. Drain and refill crankcase at least every 3 months.

TESTING

If air supply or pressure decreases, test all outlets, joints, and valves for leaks — using soapy water and brush. Periodically inspect check valves, safety valves, or valves in head of compressor. If they leak, remove and clean—oil them so as to work freely.

SERVICING

Drain moisture from air tank at least weekly, preferably every day. When replacing head gasket, secure proper grade of material from manufacturer—do not use paper or soft rubber.

ELECTRICAL

Keep motor dry. Don't connect motor to light wiring—run proper size wiring direct from meter. Disconnect automatic units at night unless in use.

Proper fusing prevents burnt-out motors. Don't over-fuse. Don't use jumpers. Thermal cutouts are recommended for any motor, but should always be used with 2 or 3 phase motors to prevent single phasing.

KEEP CLEAN

Wipe your compressor unit off at frequent, regular intervals. Set a time each week for this important service.

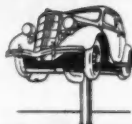
CURTIS PNEUMATIC MACHINERY DIVISION of Curtis Manufacturing Company
1970 Kienlen Avenue, St. Louis, Missouri



Curtis Compressors... dependable, low cost air supply... precision built for long life... automatic starting unloader, sizes ¼ to 10 H.P., single and two-stage.



Curtis Four-Post Electric Lifts... easily portable... no excavating or floor sockets... no overhead obstructions... maximum accessibility... completely safe.



Curtis Hydraulic Rotating Lifts—safe at all heights... exceptional accessibility... 16 ft. self-leveling platform... four ton capacity... handles all cars.



Curtis Hydraulic Car Washers... new low prices... simplified, rugged design, self-oiling... money makers for any shop. Four sizes.

**"THERMOID GIVES US
BRAKES THAT STOP
—plus longer mileage"**

**ET & WNC
MOTOR TRANSPORTATION**

The letter tells us exactly what it's all about. It's a testimonial from ET & WNC Motor Transportation, Inc. of New York City, praising the quality and performance of Thermoid brakes. The letter mentions that their trucks are equipped with Thermoid brakes and that they have experienced excellent results in terms of stopping power and mileage.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

**When
BECKLEY BROTHERS
CROSS THE SIERRA NEVADAS
with 20 tons of beef on the hoof**

**...they rely on Thermoid
for safe, economical STOPS**

Beckley Brothers, of Bishop, California, one of the big trucking firms in western California, have been using Thermoid brakes for many years. They state that the brakes are reliable and economical, and that they have experienced excellent results in terms of stopping power and mileage.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

**UP TO
50,000 MILES
ON ONE SET OF LINING**
in New York Traffic

**...here's why
Patrick J. Langan, Inc.,
relies on
Thermoid**

Mr. Langan's letter states that he has been using Thermoid brakes for many years and that he has experienced excellent results in terms of stopping power and mileage. He mentions that his trucks are equipped with Thermoid brakes and that they have been able to handle heavy traffic in New York City.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

THEY ALL RELY ON Thermoid

Leading fleet operators find dozens of ways of saying it . . . The half-dozen shown here give you the general idea: THERMOID BRAKE LININGS FOR HEAVY DUTY VEHICLES COMBINE SAFE, SURE STOPPING WITH LONG LINING LIFE. That's certainly the combination every operator wants these days, whether he's concerned with one unit or a thousand, in western Alaska or southern Florida. Test Thermoid on some of your own units . . . Let the results convince you that you, too, can "Rely on Thermoid."

**EXTRA
MILLION-MILE
"PAPER ROUTE"**
Guarantee quick, safe stopping!

Migay Trucking Corp. relies on Thermoid

Mr. Migay's letter states that he has been using Thermoid brakes for many years and that he has experienced excellent results in terms of stopping power and mileage. He mentions that his trucks are equipped with Thermoid brakes and that they have been able to handle heavy traffic in New York City.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

**In moving "mountains"
of furniture through the world's heaviest
traffic...LUOWIG BAUMANN relies on
Thermoid Brake Linings**

Mr. Baumann's letter states that he has been using Thermoid brakes for many years and that he has experienced excellent results in terms of stopping power and mileage. He mentions that his trucks are equipped with Thermoid brakes and that they have been able to handle heavy traffic in New York City.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

Thermoid

CUSTOM-BUILT BRAKE LINING SETS
CBB SETS
THERMO-BLOCKS
FOR HEAVIEST DUTY

**OPERATING
136 TRUCKS OF EQUIPMENT FOR
3,500,000 MILES A YEAR...**

**Novick Transfer Co. relies on Thermoid
BRAKE LININGS**

Mr. Novick's letter states that he has been using Thermoid brakes for many years and that he has experienced excellent results in terms of stopping power and mileage. He mentions that his trucks are equipped with Thermoid brakes and that they have been able to handle heavy traffic in New York City.

Thermoid
CUSTOM-BUILT BRAKE LINING SETS - CBB SETS - THERMO-BLOCKS FOR HEAVIEST DUTY

• THERMOID COMPANY • Trenton, New Jersey •

(CONTINUED FROM PAGE 92)

conserve rubber. A tire running in 40 deg. heat will run twice as long as one running in 80 deg. heat. Tires generate tremendous temperatures during summer heat and the faster the speed the more heat they generate. Heat is one of tire's most destructive agents.

Do not allow your drivers to bleed tires and train them to test inflations on the highway whenever they stop. If possible all air should be added at terminals where charts are dis-

played showing proper pressures for the different size tires used.

Tires should be inspected for cuts and bruises and vulcanized as soon as cuts develop, if it feasible. Careless mounting and incorrect matching of tires and tubes result only in grief.

Train your drivers to avoid obstacles, backing hard and resting against curbs. Train them in proper use of brakes, excessive acceleration on starting, and proper ways to stop vehicles without skidding tires.

In the past few years we have seen

progressive strides made in motor fuel. We have seen miles per gallon increased 20 per cent, engine performance 50 per cent and the amount of petroleum needed to make America's motor fuel cut in half. In spite of these advancements, some operators still continue to operate on cheap fuel which might or might not offset cost of wear and tear on equipment by cheap prices for gas. Such method of operation, whether it saves costs or not, will under present conditions have to be thrown into the discard. Our primary purpose is conservation of equipment.

You should experiment with your motors to find the rating that eliminates knocking and gives better efficiency by eliminating excessive carbon deposits caused by slow burning fuel. Carburetion has a great deal to do with efficient operation and carbon deposits, and adjustments in carburetors can be made to fit the type fuel you use.

Keep your vehicles free from accidents and fires by using proper safety measures, such as safety tanks, cut-off-switches, controlled speed, and a regular system of training drivers in safety measures. Protect your buildings and machines, remembering that all materials will be scarce in the future and replacements cannot be made. Above all protect and conserve your manpower. Good men are scarce too, many are going into the Army and defense industry, so keep your men free from accidents by throwing around them all safe-guards necessary for their health and safety.

END

(Please resume your reading on p. 37)



**CAREFUL
REFLECTION
CALLS FOR**

ARROW

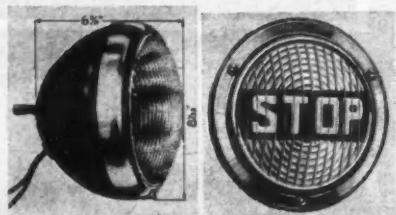


REFLECTORS

Think it over a minute. You want a powerful reflector for extra safety . . . one that can be seen as far or farther than any other made. You want the new plastic lens that'll take tough knocks and like it. You want an extra sturdy steel housing with the rim that extends 1/2 in. beyond the lens for extra protection.

These new "ARROWLITE" Reflectors offer all this and more. You have your choice of round or oval design; baked on enamel finish or olive drab; red or amber lens; and like all ARROW products, the price is right. See your jobber or address Dept. 131.

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SEALED BEAM
HEAD LAMPS

STOP LIGHTS



ADJUSTABLE
MIRRORS



MARKER LAMPS AND
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CLEARANCE LAMPS

ARROW SAFETY DEVICE CO., Inc.
MEDFORD, NEW JERSEY



Metropolitan Distributors, Inc., New York City, use this bin to collect scrap. They have scrapped 10,000 lb. of iron and steel, 4000 lb. of lead, 21 chassis and have disposed of \$2,300 in excess or unneeded parts to others. The company operates 1700 vehicles. R. D. Sidel (left) vice-president, congratulates Gus Fuhring, chief of the scrap effort

BARRIERS ON WAY OUT

(CONTINUED FROM PAGE 37)

Carroll L. Wilson, Director of the Bureau of Foreign and Domestic Commerce. The maximum weights and sizes that the Federal government would prescribe are those that were recommended to the conference by Commissioner Thomas H. MacDonald of the Public Roads Administration, in the form of "Emergency Regulations of Size & Weights of Motor Vehicles," as follows:

(1) *Width.* No vehicle, unladen or with load, shall have a total outside width in excess of 96 in.

(2) *Height.* No vehicle, unladen or with load, shall have a height in excess of 12 ft. 6 in.

(3) *Length.*

(a) No single vehicle, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 35 ft.

(b) No combination of vehicles, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 45 ft.

(c) Combinations of vehicles shall consist of not more than two units. A truck with semi-trailer shall be considered as two units.

(4) *Wheel and Axle Loads.*

(a) The total load on any single wheel shall not exceed 9000 lb. and the total load on any single axle shall not exceed 18,000 lb.

(b) When the distance between any pair of axles is less than 10 ft., the total load on either of the axles shall not exceed 18,000 lb. and the total load on the two axles shall not exceed 32,000 lb.

(5) *Gross Weights.*

(a) Subject to the limitations imposed on wheel and axle loads, the gross weight, with load, of any vehicle having two axles shall not exceed 30,000 lb.

(b) Subject to the limitations imposed on wheel and axle loads, the gross weight, with load, of any vehicle or combination of vehicles having three or more axles shall not exceed 40,000 lb.

(6) *Seasonal Regulation.* The maximum axle loads and gross loads permitted by these regulations are subject to a reasonable reduction by

(TURN TO PAGE 98, PLEASE)

MAKE YOUR *Cleaning Dollar* GO FURTHER WITH MONEY-SAVING OAKITE REPAIR AND MAINTENANCE "TIPS"

Three good reasons why you should keep your floors CLEAN!

FIRST . . . oily, greasy floors shorten tire life. Clean floors actually help you get more mileage! SECOND . . . you eliminate a dangerous fire hazard when you keep floors and work pits grease and oil-free. THIRD . . . clean floors mean SAFER working places for your mechanics. Less time is lost because of avoidable slipping hazards.

So it pays to keep your shop floors clean. But be sure you use Oakite Penetrant for fast, low-cost results. Simply brush on recommended solution, then remove softened deposits with hose rinse. No hard scrubbing or scraping. Saves you time, money and effort. Want complete story? Ask for FREE, 36-page cleaning manual. Write today.

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Representatives in All Principal Cities of the United States and Canada

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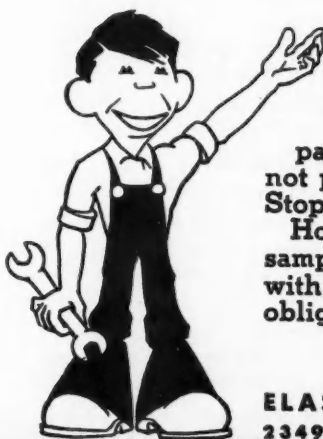
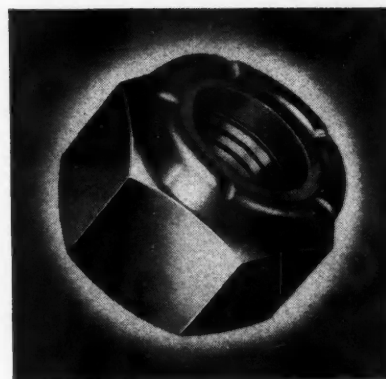
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Now is the time to TEST THIS SELF-LOCKING NUT ON YOUR EQUIPMENT...



WITH our entire production going into airplanes, tanks, gun mounts, patrol boats, and other tools of war, it is not possible at this time to furnish Elastic Stop Nuts for all requirements.

However we are in a position to offer sample nuts for testing on any equipment . . . with a view to future application. No cost or obligation . . . Just specify your requirements.

» Write for folder explaining the Elastic Stop principle.

ELASTIC STOP NUT CORPORATION
2349 VAUXHALL ROAD • UNION, NEW JERSEY

Elastic Stop

SELF-LOCKING NUTS

(CONTINUED FROM PAGE 97)
state authorities for a reasonable period during the spring of the year if the road subgrades have been dangerously weakened as a result of thawing after deep frosts.

(7) *Alternate Regulations.* The limitations on sizes and weights of motor vehicles set forth in the above regulations are the most restrictive that may be enforced in any state during the period of the national emergency but less restrictive limitations may be permitted in any state

at the discretion of the state authorities.

(8) *Special Certificates.* For all sizes or gross loads in excess of the limits herein provided, special certificates shall be issued by the proper state authority. The total gross load shall be limited by the following formula:

$W = C (L + 40)$, in which

W = gross weight in pounds

L = distance, in feet, between the foremost and rear-most axle of any group

of two or more axles
 $C = 750$, when L is greater than 18

650, when L is 18 or less

These are old recommendations and with minor exceptions, as Mr. MacDonald pointed out, they are all in agreement with the resolutions formulated and adopted by representatives of the northeastern states at the Seventh Regional Conference on Highway Safety and Motor Vehicle Problems in January, 1942.

Subsequently these resolutions were endorsed by Region Two of the American Association of Motor Vehicle Administrators at Miami, Fla., March 30 and by Region Four of this Association at Sacramento, Calif., April 9, with desirable qualifications. Region Three of the Association, as Mr. MacDonald explained, endorsed by resolution the principle of uniformity. The government recommendations also were adopted by the Southern Governors' Conference.

Mr. MacDonald, commenting on the Association endorsement, said that the regulations have been approved in detail by a large majority of the states.

"If put into effect they will remove the more serious restrictions on the free movement of interstate truck traffic and provide a floor for the maximum dimensions and weights of motor vehicles below which we should not go," he pointed out.

"These regulations are recommended as the most severe that should be imposed during the war period, and there is no suggestion that greater lengths or greater weights may not be permitted in any state or group of states in accord with the existing laws."

If the Governors' conference is not fruitful, the implication is that Federal action will be taken. The doubt regarding the Governors' inability to have barriers lifted in time to suit the Administration is based on the fact that state legislation will be necessary. Special sessions of state legislatures apparently will have to be called, since most of them will not meet until 1943, but even if Governors agree to calling special sessions there is a belief that much difficulty and delay would be experienced in liberalizing the highway barrier laws. In some states, however, it is recognized that quick action would be

(TURN TO PAGE 100, PLEASE)

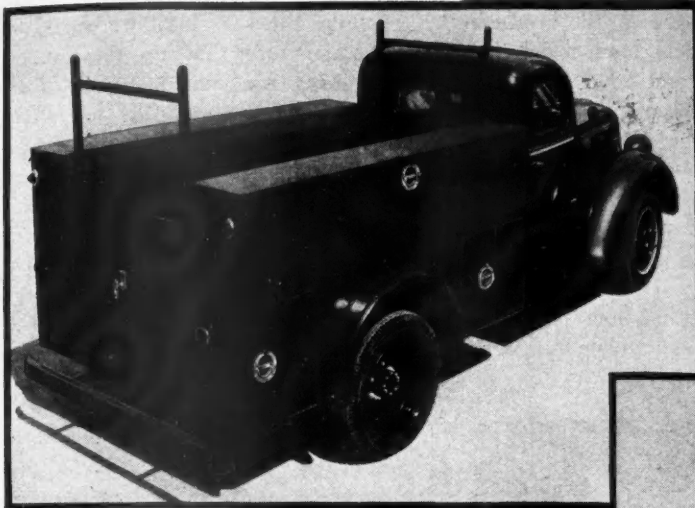
Sounds like a miracle—but it's pretty simple. Increase the actual running time of the truck only 45 minutes a day, and the "miracle" is in the bag.

MAKE FIVE TRUCKS do the work of six! This often happens; maybe it's easier to understand this way:
Five Servis Recorders save one whole truck. Divide the weight of the truck saved by the weight of 5 Servis Recorders and you get the astonishing answer given in the headline above.

It happens!—to those who take the trouble to make it happen. Saves money of course; but far more important, it *saves metal*—saves it in important quantities. Send for our booklet, "Ten Ways of Getting More Work Out of Motor Trucks." It's free. THE SERVICE RECORDER CO., 1375 Euclid Ave., Cleveland, Ohio.

The Servis Recorder

Shows Busy and Idle Time...All Day

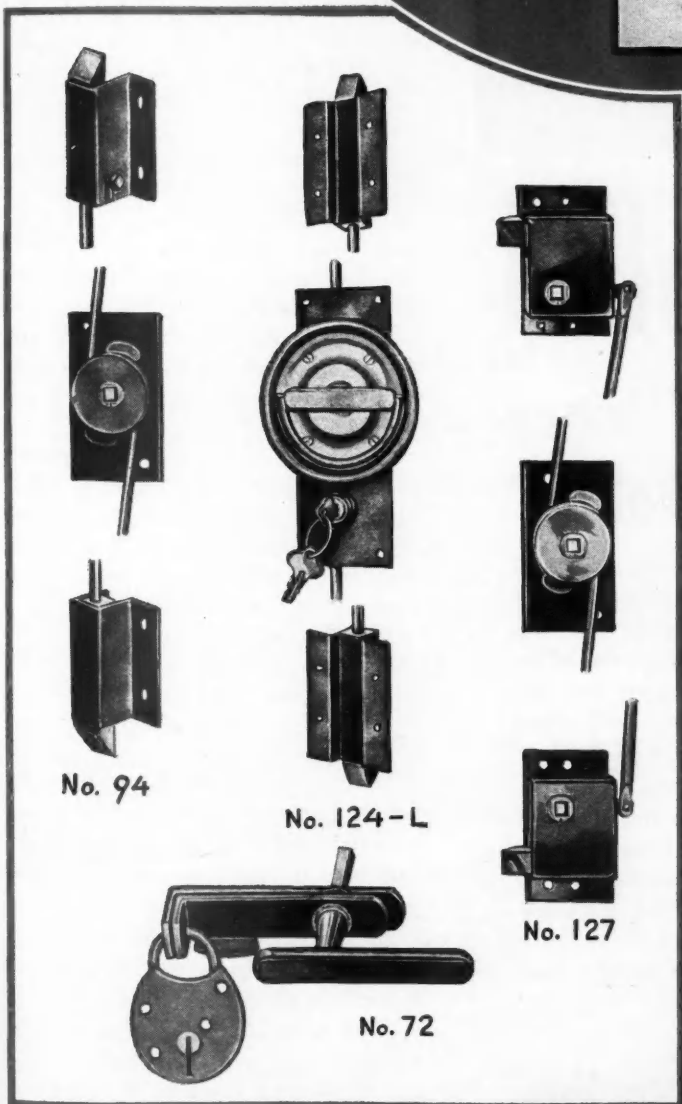


McCABE-POWERS AUTO BODY CO.

Use Quality Hansen Hardware



McCabe-Powers Auto Body Co., St. Louis, Mo., built these Hansen-equipped bodies, using the types of Locks and Handles shown in panel at left.



TODAY, more than ever, bodies must perform an extra measure of service—doing their jobs with increased endurance and greater efficiency. McCabe-Powers bodies are built not only to meet war-time essentials but for durable, low-cost performance—now—and later.

As standard equipment on the bodies they build, McCabe-Powers use Hansen Quality Hardware for holding doors tight shut, requiring little space and making it easy to open and close doors—for giving long, dependable service.

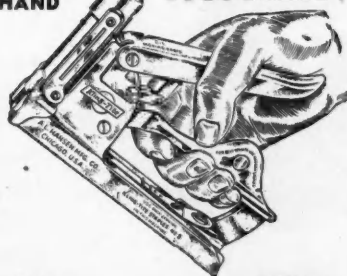
Whether you operate one truck or a fleet—don't overlook the importance of specifying and using Hansen Hardware—for, remember, *no truck is better than the hardware it uses!*

ASK FOR CATALOG
IF YOU DON'T ALREADY
HAVE ONE. It shows
Hansen Hardware and Tack-
ers in a complete line.

PRODUCTS ILLUSTRATED: No. 72 Handle with Locking Bars—No. 94 Slamming Lock—No. 124-L Slam-and-Take-up Lock—No. 127 Slamming Lock—Hansen One-Hand Tacker.

HANSEN ONE-HAND TACKERS

Used in automotive and airplane construction—for various tacking and fastening jobs—insulation, seat covers, airplane assembly, etc. Models for driving Tackpoints and T-head Tacks up to 1/2". Powerful—portable—one-hand operation.



Ask for Descriptive Folder

A.L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE.
CHICAGO, ILL.



(CONTINUED FROM PAGE 98)
taken. The state of Montana, for instance, in explaining the absence of representation at the Washington conference, said it knew of no barriers it has erected but if the Federal government thinks it has any such barriers they will be removed. Wyoming felt that the expense of sending delegates to the conference was greater than it could bear at this time but was said to show a cooperative spirit.

WPB Chairman Donald M. Nelson told the conference that one of the

principal problems of hampered transportation or conservation of war materials was due to the confusion of state and local laws which limit the size, cargo and other features of commercial trucking.

Many of these laws, Mr. Nelson said, were passed over a series of years for the selfish interests of particular business or labor groups.

"We can't win a war that way," he added.

The WPB Chairman said that "shortages of gas, rubber and repair

parts are going to give our motor transport operators handicaps enough; the very least we can do is to make sure that no unnecessary handicaps are added. This is no time to hang on to the luxury of regulations which are aimed primarily at keeping the people of one state from hauling goods in another state."

It was Mr. Eastman who gave the first intimation at the conference that Federal action might be necessary to remove state barriers. He pointed out that because some legislatures are not in session and "for other reasons" it may not be possible to remove trade obstacles through voluntary action by the states. He told the conference that Federal authorities will welcome the help of states in framing emergency legislation.

The identical bills introduced by Senator Andrews of Florida, a member of the Senate Committee on Interstate Commerce and by Representative Lea of California, Chairman of the House Committee on Interstate and Foreign Commerce, which Mr. Eastman has endorsed, are designed to cover the kind of emergency legislation which he described as necessary.

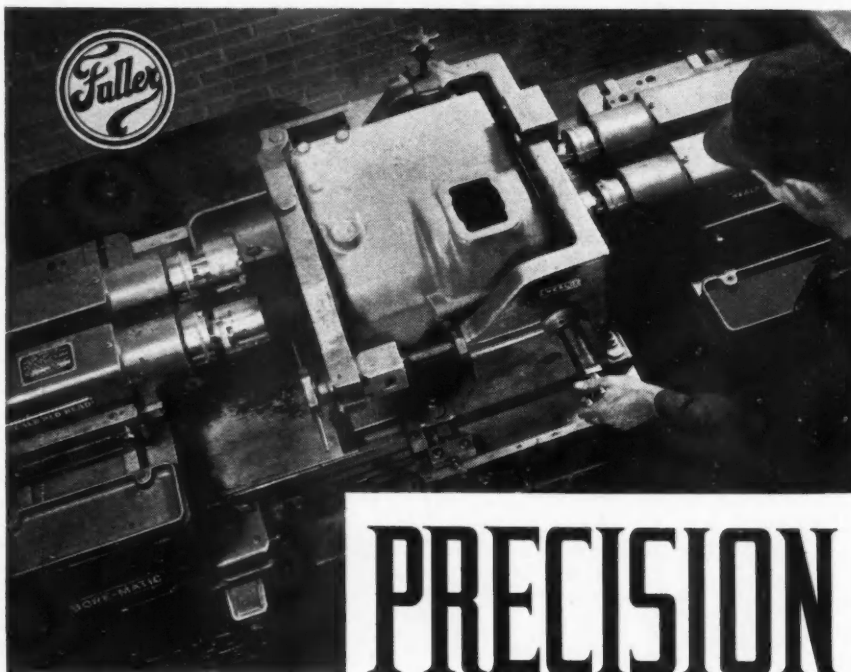
The legislation, he said, should be so drawn "as to preclude any action except for the purpose of accomplishing better utilization of domestic transportation facilities for the successful prosecution of the war, and only where it appears that there will be no resultant public injury which will transcend in importance the expected benefits."

Speaking of railroad transportation, Mr. Eastman said that the principal obstacles are local limitations on the length of trains and conflicting regulations as to the number of men required for train crews.

The highway transportation situation was pictured as being even worse because of conflicting rules governing weights of trucks and buses, and the licensing and taxation of motor carriers. These highway transportation restrictions were ascribed in part to "the desire of the railroads to limit or embarrass the competition which they encounter from motor trucks and buses."

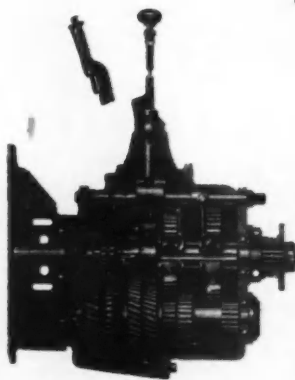
Saying that it is well to be entirely frank, Mr. Eastman added:

"The railroads and their employees who are powerful politically, have
(TURN TO PAGE 102, PLEASE)



PRECISION

**that Makes Possible "More
Payload per Dollar"**



Models 5A43 and 5A430
— choice of overdrive
or direct on fifth.

In this multiple boring operation FULLER Transmission cases are bored with four holes simultaneously. Dimensions and locations of the holes are maintained within .001 inch tolerance on the bore and .002 between centers — a precision job calling for the finest of equipment, and the best of craftsmanship.

Through workmanship like this, FULLER builds extra service life — extra dependability into every part of these heavy duty transmissions. That's why FULLER's are rendering such notable service today under conditions that demand the utmost from all trucking equipment.

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FOR FASTER SCHEDULES ON THE ROAD TO VICTORY!

Horse-races aren't won in the stable. Ball-games aren't won on the bench. And rolling-stock must roll to win the Battle of Time. Grey-Rock's 3-Point Plan is a tested time-saver. It takes time out of the SHOP . . . transfers it to the ROAD. Grey-Rock Balanced Brake Blocks give greater mileage between re-lines . . . allow closer schedules with safety. That's another time-saver. Remember: It's ROAD-time that counts on The Road to Victory! Ask your Grey-Rock jobber. UNITED STATES ASBESTOS DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

NOW . . . MORE THAN EVER . . .
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BALANCED BRAKE LININGS
BLOCKS • CLUTCH FACINGS • FAN BELTS • HOSE



STEP UP YOUR SCHEDULES WITH GREY-ROCK'S 3-POINT PLAN



NATIONAL SAFETY COUNCIL STANDARDS—guidant, correct, safest check on brake inspection, adjustment and reline jobs.



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GREY-ROCK BALANCED BLOCKS are the correct nationally-advertised linings worthy of good service. Famous Vee-Lok Clutch Facings are best for every vehicle.

(CONTINUED FROM PAGE 100)

been extremely active in seeking state restrictions upon the size and weight of motor vehicles for this purpose, and in opposing any Federal remedial legislation. Manifestly, also the success of such efforts on their part in even a single state has effects in interfering with the flow of interstate commerce by motor vehicles which extend far beyond the boundaries of that state. Continuing with this frank expression of personal opinion, there exists, in a very few states, regula-

tions which can be satisfactorily explained in no other way. * * * And may I be permitted to say, parenthetically only, that to the extent that the desire to protect the railroads from competition may be responsible for some of these restrictions, the railroads certainly are in need of no such protection now. On the contrary they need, or soon will need, all the help from competing agencies of transportation that they can get."

Mr. Eastman said that there is an imposing volume of evidence that

trucks engaged in handling, not only commercial shipments, but also shipments under seal made by the Army and Navy and of the most urgent character, have been seriously obstructed or impeded in movements across state lines.

"These obstructions have resulted," said Mr. Eastman, "not only from variations in size and weight regulations, but also from impediments to the use of vehicles because of license regulations and the like."

Mr. Eastman said that for any legislation that will "concern transportation primarily, I am constrained to believe, although without any personal enthusiasm, the administering agency should be the Office of Defense Transportation, although the legislation certainly should provide for collaboration on the part of the Public Roads Administration."

The first reaction to the Washington trade barrier conference came one day after its conclusion. H. H. Chasteel, chairman of the Mississippi Public Commission, telegraphed Mr. Eastman, saying that a conference of Mississippi officials had been called regarding the relaxing of the weight limits on motor transportation and asked whether Mr. Eastman thought the weight limit should be increased for the duration.

Setting up the standards that Mr. MacDonald outlined, Mr. Eastman wired the reply that he considered it a matter of national importance that existing Mississippi limitations on the weight and length of motor vehicles be relaxed during the war with the necessary safety structure exceptions to not less than 18,000 lb. for one axle, 30,000 lb. for two axles and 40,000 lb. for three axles and for tractor-trailer combinations. He suggested that the length of the tractor-semitrailer combination be increased to not less than 45 ft.

END

(Please resume your reading on p. 38)



Pacific Body Works, San Francisco used 3 in. of Dry Zero insulation in the roof and 2 in. in the sides to assure temperatures between 34 and 37 deg. for this re-rigerated GMC job operated by Rathjens & Sons, San Francisco. The cold is maintained by circulating air over 150 lb. of ice using a 6-volt motor fan

Save Gas!

De Luxe Cab
Limited
351 QUEEN STREET EAST
TORONTO 2
May 6th, 1945.

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COMMERCIAL MANAGER

HERBERT B. WALLACE
COMMERCIAL MANAGER

Mr. John G. Williams,
Secretary,
National Association of Taxicab Owners,
500 North Dearborn St.,
Chicago, Ill.

Dear John:

I don't remember having advised you that during the last Convention while I was in Chicago I ordered 60 Hoof Governors for my fleet. Why did I order the Governors? Because I learned first-hand, from Members of the N.A.T.O. in attendance at the Convention, during an open meeting, of the benefits I could expect from using Hoof Governors.

Mechanical savings and reduced accident frequency are more or less unknown quantities at the moment but I do know that the Governors saved us 1500 gals. of gasoline in March and about the same in April. This means that the Governors pay for themselves in 3 months. During the following 9 months after the Governors have paid for themselves, we will definitely save 10,000 gals. of gasoline which helps our war effort and represents a tidy profit to us.

The Hoof Governor Company can thank the N.A.T.O. for the sale and I am grateful to the Members of the N.A.T.O. for helping me to decide on the purchase of Governors.

My N.A.T.O. membership has so far returned me handsome profits.

Yours very truly,
Stanley Baidar

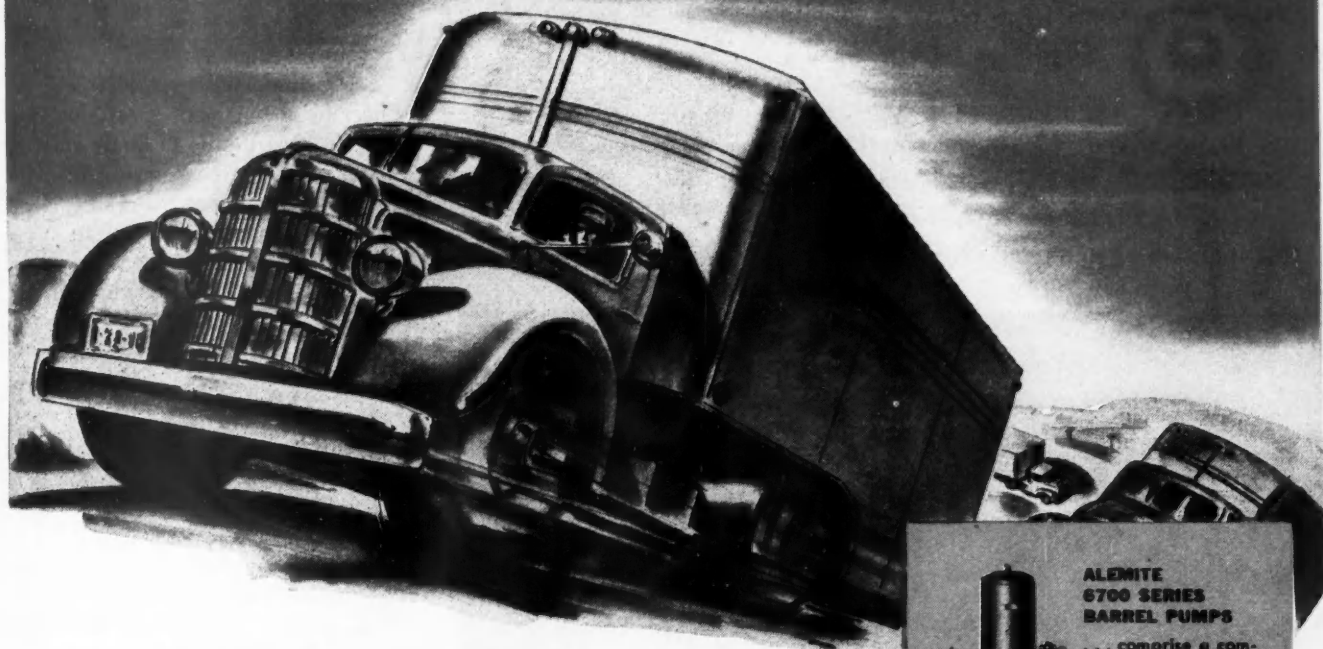
EVERYTHING UNDER CONTROL WITH HOOF GOVERNORS

You shouldn't be without this new 24 page booklet "Everything Under Control"! Send for one today if you haven't already received a copy.

HOOF PRODUCTS COMPANY
6543 S. Laramie Avenue
CHICAGO, ILLINOIS

Hoof Governors

Truck Parts Are Hard to Replace... Lost Hours Can Never Be Recaptured! ...Proper Care "Keeps 'Em Rolling!"



Alemite Power Lubrication Speeds Greasing—Prevents Breakdowns ... Steps Up War Transportation!

THIS IS NO TIME to skimp on truck care. A dollar "saved" by "short-changing" your truck on frequency of service—or on *quality* of service—may cost a hard-to-get part. What's more, it may tie up a vital load for hours—throw a factory's war production schedule out of kilter—may actually cost the lives of American boys "on the other side."

Leading fleet owners everywhere are cutting priceless minutes from each truck lubrication with the aid of fast, accurate, positive Alemite Power Lubrication. Trucks getting this kind of regular service "keep rolling" longer! They are less likely to call on our country's diminishing stock of precious repair parts.

There is an Alemite Power Gun of the correct size to service your fleet—large or small—efficiently and economically—to guard bearings and speed your war transportation contracts. For complete facts, write, wire, or phone us direct.



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6700 SERIES
BARREL PUMPS**

... comprise a complete range of heavy-duty pneumatic pumps, available for high, medium, or low pressures. Handle heavy greases direct from original drums, with ample capacity to serve several outlets.

**ALEMITE MODEL 6190
25-LB. ELECTRIC POWER GUN**

Delivers 12 ounces of semi-solid lubricant per minute under high pressure. Nitralloy high pressure piston and cylinder. Heavy duty universal motor; easily portable; complete with hose and valve.



**ALEMITE MODEL 6528
40-LB. AIR-OPERATED GUN**

Operates on 100 to 150 lbs. air; handles heavy fibrous grease at 33 times air pressure used; exclusive helix arm and worm assures positive prime—no air pockets.



SERVICE TIPS

(CONTINUED FROM PAGE 39)

gasoline, cleaning them of any grease or foreign matter. Great care should be taken to clean the valve guide with a wire brush and make sure it is free from carbon and dirt. These precautions insure proper centering of the pilot in the guide.

Valve Refacing

Valves that are pitted can be re-

faced to the proper angle, insuring correct relation between the head and the stem.

For quiet operation, it is important that the end of each valve be refaced. This is usually done with a "V" block attachment on the valve refacer.

Before replacing the valves in the cylinder head, clean all valves, seats and cylinder head. Many a good valve job has been ruined by failure to properly clean all parts.

Valve Adjustment Procedure

Before adjusting the valve-stem-to-rocker-arm clearance, it is extremely important that the engine be thoroughly warmed up to normalize the expansion of all parts and stabilize the oil temperature. This is very important because during the warm-up period, the valve clearance will change considerably. To adjust the valves during this warm-up period will produce clearances far from correct after the engine reaches normal operating temperature.

Tests conducted by Chevrolet's engineering department show that during the warm-up period, starting with a cold engine running idle, the following variations of valve clearance take place. These tests were made starting with the valve clearance set at (intake) .006 in. and (exhaust) .013 in. cold.

Time Minutes	Valve Clearance Intake (in.)	Change Exhaust (in.)	Oil Tempera- ture Degrees F.	Water Tempera- ture Degrees F.
0	.006	.013	70	70
3	.009	.010	95	125
5	.011	.012	115	155
10	.010	.012	160	185
15	.0075	.0095	180	185
20	.0065	.008	190	185
25	.006	.012	185	185
30	.006	.013	185	185

Covering the radiator grille will not materially hasten this normalizing process because even with the water temperature quickly raised to 185 deg., it does not change the rate at which the oil temperature increases or the engine parts become normalized.

Before adjusting valve clearance, oil the valve mechanism thoroughly to insure free movement of valve stems. Adjust the valve clearance as follows:

Intake .006 to .008 in. Hot

Exhaust .013 to .015 in. Hot

For trucks operating under severe conditions it is advisable to set valve clearance as follows:

Intake .008 in. Hot

Exhaust .0015 in. Hot

For types of operation where engines are subject to the particular type of hauling, such as log hauling in swamp country, tractor work, etc., where continuous full throttle operation is required, set valve clearance:

Intake .010 in. Hot

Exhaust .020 in. Hot

2. ENGINE TUNE-UP

Extreme care and attention should (TURN TO PAGE 106, PLEASE)

TO THE AIRCRAFT FACTORIES

ROAD SAFETY IS A NATIONAL NECESSITY

Ferodo for Road Safety

FERODO
BRAKE LININGS

The name "Ferodo" on brake linings gives assurance of good brakes—good brakes mean safety... and many extra miles from precious tires.

FERODO AND ASBESTOS, INCORPORATED, NEW BRUNSWICK, N. J.

QUALITY?

YES!

AVAILABLE?

YES!

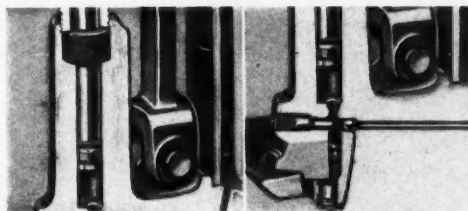


● Today's Walker "Series 900" Jacks are the finest tool-box jacks Walker has ever made. Improved, perfected, trouble-proofed through the years—you'll find no "ersatz" in a Walker "900." In times like these when you need Walker dependability more than ever before—you get it in the Walker "Series 900."

WHAT ABOUT AVAILABILITY?

Sure, you can still get Walker Portable Hydraulics. Walker has a stock of special truck sizes—3 tons, 5 tons, 8 tons and 12 tons—ready for immediate delivery. Get yours while the supply lasts—there will be no more when these are gone until after the war. Call your Walker Jobber today. Check over your tool-box equipment and as part of your tire conservation program be sure each unit in your fleet is equipped with a good Walker "Series 900" Hydraulic Jack.

THESE FEATURES MEAN DEPENDABILITY



"Snug-Fit" Power Pump—Power pump piston is "snug-fit" into the barrel and oil-sealed for greatest efficiency and long life.

"Ryth-matic" Valve Action—Precision-built valve assembly eliminates wasted action—assures smooth, dependable lifting power.

**WALKER MANUFACTURING COMPANY OF WISCONSIN
RACINE, WISCONSIN**

WALKER
Series 900
PORTABLE HYDRAULIC
JACKS

(CONTINUED FROM PAGE 104)

be exercised in performing the engine tune-up. With the modern tune-up instruments available today, guesswork is out of the picture. Complete diagnosis of an engine can be accurately completed in just a few minutes' time. This diagnosis will be able to reveal the defects which may be existing in the carburetor, fuel pump, distributor, distributor cap, spark plugs, generator, starter, battery and the complete wiring system.

Carburetor

The condition of the carburetor can be accurately checked with the combustion analyzer and whatever repairs are necessary can be decided upon immediately.

The lead content in all premium fuels has been reduced and this brings about a lower octane rating in the fuel.

In order to conserve fuel, which is very important at this time, carburetor parts should be properly set

or replaced when wear is present. Worn parts in carburetors waste millions of gallons of gasoline each year. So conserve gasoline by making whatever carburetor repairs are necessary. This will reduce your operating costs and prolong the life of pistons and piston rings many thousands of miles.

Set the float level $\frac{1}{2}$ in.

Set metering rod adjustment with the special gauge, Part No. 600996. This gauge can be purchased from any zone parts warehouse.

Metering rods are furnished in two sizes, marked as follows: Standard 67-46; lean 68-49.

Fuel Pump

Fuel pump pressures should be from $3\frac{1}{4}$ to $4\frac{1}{4}$ lb. Pressures lower or higher than the above figures should be corrected immediately. Low pressure will result in poor performance by not supplying sufficient fuel. Higher pressures exceeding $4\frac{1}{4}$ lb. will flood the carburetor, resulting in very low fuel mileage.

Distributor

In the past, distributor points were set with a feeler gauge and this was considered sufficient for good operation. But as the demand for more power and higher performance increased, more importance had to be placed on the ignition system. Higher compressions made it very necessary for the distributor points to remain closed an equal amount of time to build up the coil. This would insure an equal spark at each spark plug. High compression has the tendency to smother out the spark at the plug if not of the proper intensity, thereby causing a noticeable miss.

Breaker points should be set with a dual angle meter. Setting the breaker points by using the meter it is possible to set the breaker points to remain closed an equal amount of degrees for each of the six cams on the distributor shaft.

Spark Plugs

To prolong their life, spark plugs should be removed and cleaned every 3000 miles. Cleaning the spark plugs removes the oxide coating which forms on the insulator and electrodes.

Spark plug gaps should be set to
(TURN TO PAGE 110, PLEASE)

SAVE TIME AND MAN POWER ON BODY AND FRAME STRAIGHTENING

Snap-on Hydra-Pak

The **Hydra-Pak**
HYDRO-UNIT is
right in front
of you — on
the tool it-
self —

STRAIGHTEN
FRAMES AND BODIES
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ONE-MAN WAY



WITH HYDRA-PAK, you're *all* set for every body and frame straightening job. Here's the fast, accurate, *one-man* way to handle a full range of tough rebuilding and reconditioning jobs . . . with *minimum* investment in equipment.

With Hydra-Pak, 10 tons of controlled hydraulic power are at your finger tips . . . with the hydro unit *right before your eyes* . . . and with positive control that could squeeze an egg without breaking it! No remote motors . . . no

cumbersome hoses—just *speed* and *power* and *sureness*! Kwix-tension feature for lightning-fast extension on the job. Complete accessory equipment gives limitless range of pulling—pushing—bending—clamping—lifting—pressing—and spreading operations in the hands of any competent mechanic.

For demonstration, and film showing wide range of Hydra-Pak operations, see your Snap-on salesman, or write—

SNAP-ON TOOLS CORPORATION 8026-F 28th Ave., KENOSHA, WISCONSIN

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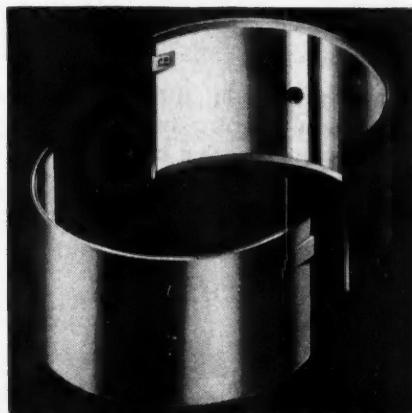
SERVICE TOOLS
The Choice of Better Mechanics



POSED BY
MARGIE AND
JOE

Bearings, too, must resist high pressure and *Genuine* Ring-True "Aviation" Type copper alloy bearings were developed to do just that. Designed for modern aircraft engines, they are now used also by the majority of Diesel and heavy-duty gasoline engine manufacturers. Truck and bus operators everywhere are daily reporting their outstanding performance.

In servicing heavy-duty engines, insist upon *Genuine* Ring-True "Aviation" Type copper alloy bearings! Ask your jobber about them.



ALWAYS REPLACE BEARINGS IN SETS



*Complete Motor Bearing and
Connecting Rod Service*

CLAWSON & BALS, INC., Chicago

Factory Stocks in Principal Cities

(CONTINUED FROM PAGE 106)
manufacturer's specifications for each model of truck used.

3. GENERATOR

All work performed should be done with accurate equipment designed for the purpose. A generator armature not properly turned in a lathe will cause the current output to be interrupted. This is caused by the brushes bouncing on the commutator. In a short time a burned place will show on the commutator,

caused by arcing of the brushes.

The procedure outlined below will help to avoid many mistakes if adhered to at all times when doing generator overhauling work:

1. Commutator must be perfectly round.
2. Brushes must be sanded in to a perfect fit.
3. Thoroughly inspect all insulation. If insulation is badly burned, it should be replaced with new parts.
4. Check generator bearings. Replace if necessary.

5. Set the charging rate with the generator voltage and ampere master test unit.

6. On trucks which are equipped with voltage regulator, it is advisable and most important that the regulator be set to manufacturer's specifications.

If all of the foregoing checks and adjustments are properly made, free uninterrupted service can be expected from the generator for many thousands of miles.

The procedure for making adjustments to the voltage regulator will not be covered in detail. But information on this procedure is available in Chevrolet's Master Shop Manual.

4. STARTER

To check the starter for amperage draw and voltage drop a starter tester and analyzer should be used.

The amperage draw should be 150 to 300 amperes. Exceeding these limits indicates there is internal trouble in the starter that should be corrected.

A few things that could cause this heavy amperage draw are as follows:

1. Burned starter switch contacts.
2. Burned spot on commutator.
3. Drive and bushing worn. Allows armature to drag on field.
4. Shorted armature.
5. Shorted field coils.

Making of necessary repairs will insure long battery life.

5. CLUTCH MAINTENANCE

If the clutch is rough or chatters, the engine mountings should be checked. If found soft or oil soaked, replace them. Road-test the truck. If the clutch operation is not up to standard, then overhaul the clutch.

When the pressure plate and clutch disc have been removed, a close inspection of these two units should be made to find any defects which might exist. Throw out fingers and pins should be replaced if the holes are worn in the fingers. This is the most common condition found in the clutch pressure assembly of the older models. Replace the pressure plate assembly on later models.

The driving disc contains several small springs next to the splines which should be examined for broken springs. If any broken
(TURN TO PAGE 112, PLEASE)

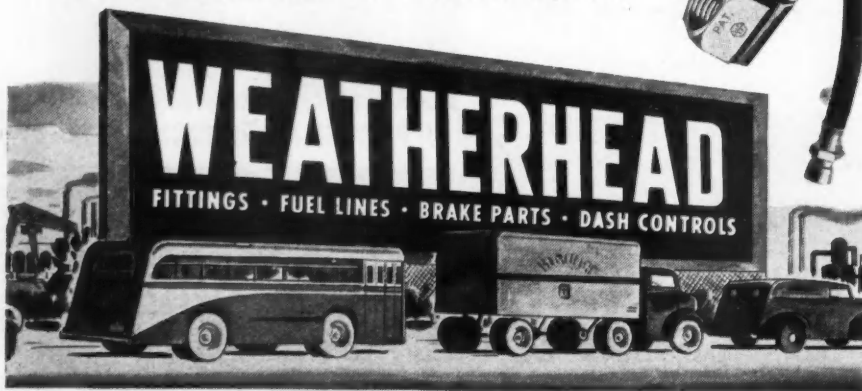


FOR Victory, supplies must move and keep on moving. Each hour that a truck is laid up, means an hour never regained. So every unit of your fleet must roll every possible hour of the day.

For replacement fittings and fuel lines needed to keep your equipment a'rolling insist on Weatherhead—original equipment on most trucks and buses.

Your jobber carries them—complete assortments of Weatherhead fittings and Weatherhead fuel lines in coils or ready-to-install lines with fittings attached.

THE WEATHERHEAD CO. • Cleveland, Ohio





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Cincinnati, Ohio
The Cincinnati Milling Machine Co.

Cleveland, Ohio
Fulton Foundry & Machine Co.

Denver, Colo.
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Detroit, Mich.
Atlas Foundry Co.

Flint, Mich.
General Foundry & Mfg. Company

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Irvington, N. J.
Barnett Foundry & Machine Co.

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Rosdale Foundry & Machine Co.

Rochester, N. Y.
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Banner Iron Works

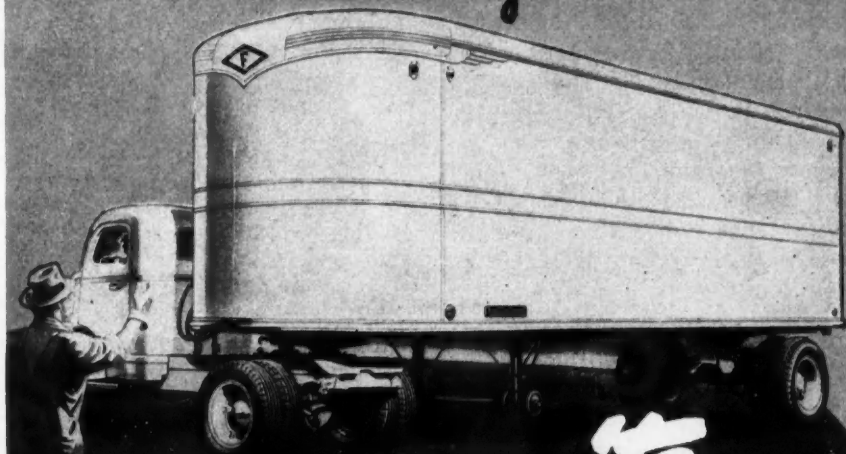
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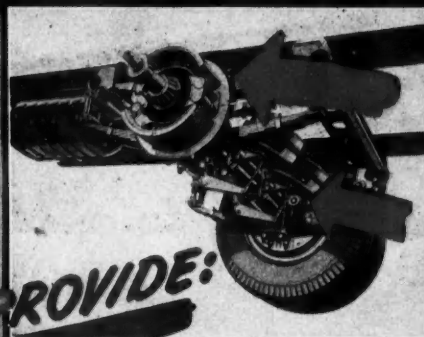
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On the new Fruehauf Trailers
with the "Passenger Car" ride



Meehanite
BRAKE DRUMS



**perfect braking surface,
long lining life,
quick heat dissipation**

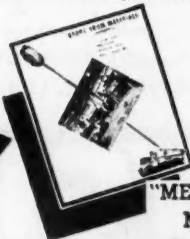
MEEHANITE Brake Drums play an important part in the smooth, dependable operation of Fruehauf Trailers. Because of the unique properties of this metallurgically controlled cast material, MEEHANITE Brake Drums provide:

1. Better resistance to braking heat
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terial that is strong enough to withstand high pressures, rigid enough to prevent distortion, hard enough to resist wear, at the same time having the ability to dissipate the heat generated quickly and repeatedly in braking action without deterioration of metal surface or structure. Experienced users report that MEEHANITE Brake Drums meet these requirements most satisfactorily.

MEEHANITE RESEARCH INSTITUTE, 311 Ross Street, Pittsburgh, Pa.

MEEHANITE
SEND FOR BOOKLET



**"MEEHANITE, the
Material for
Brake Drums"**

(CONTINUED FROM PAGE 110)

springs are found, the driving disc should be discarded and a new disc installed. If the disc is found to be in good condition, drill out the rivets and reface the disc with new facings. (Caution: Rivets should not be punched out, as this practice will distort the driving disc.) Frequently upon disassembly of a clutch, the clutch throwout fork will be found to be bent, and should by all means be replaced with a new throwout fork. Checking for a de-

fective fork is simply a matter of comparing the old form with a new one. This will immediately show the difference between the two. The proper thing to do when a comparison is made and the part is found to be defective is to replace with a new throwout fork.

6. TRANSMISSION AND UNIVERSAL JOINTS

If the transmission is noisy, it should be removed and inspected.

Worn bearings are usually the cause of the noise. The replacement of these bearings will, in most cases, remove the grinding noise and restore the transmission to its original operating condition.

Road-testing, as a general rule, will reveal the condition of the truck transmission.

Another important check to make while road-testing a truck is to find out the condition of the universal joints. Accelerate until a speed of about 35 miles per hour is reached, then decelerate. If worn universal joints are present, a vibration or noise will be heard.

As a rule, the only parts needed for this operation will be bushings, shortshaft or bearings. Sometimes trunnion bearings have to be installed to correct this condition. It is always good practice to make a complete inspection of the universal joint assembly when overhauling the clutch or transmission.

7. REAR AXLE

If any humming noise is noticeable upon acceleration or deceleration, the rear axle should be removed and inspected to determine its condition.

Adjust ring gear until there is .008 to .010 in. back lash. Adjust ring gear thrust pad with a clearance of .005 to .010 in. (Note: Proper clearance of the thrust pad is very important on trucks which are to operate under heavy-duty conditions.)

8. BRAKES

If any scores are visible in the brake drums, they should be turned and polished to a high finish with a brake drum lathe.

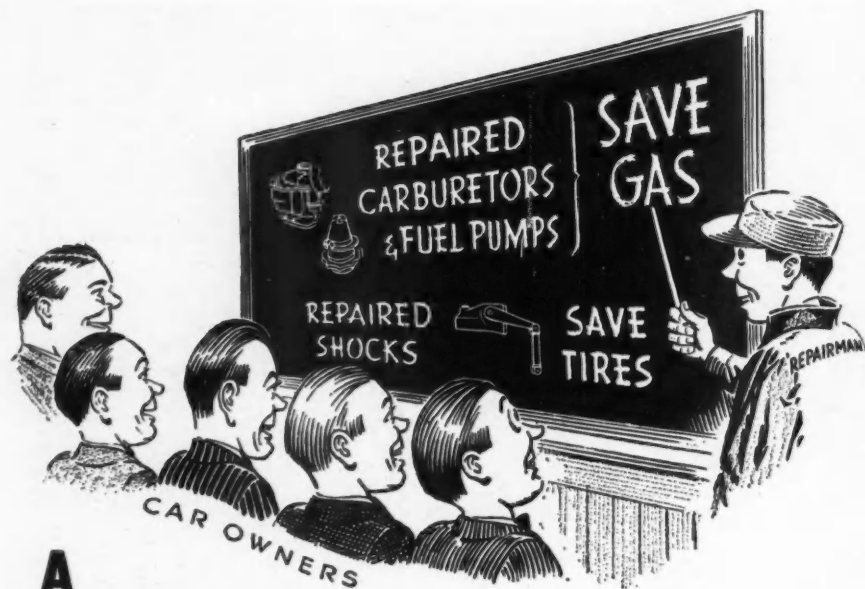
Brake lining installed on the old brake shoes will give satisfactory service provided shim material is cemented under the old lining to compensate for the amount of material removed from the brake drum.

Clean lining with a wire brush.

Note: It is important that all scores be removed from the brake drums. This will prevent the lining from tearing loose from the brake shoes when sudden emergency stops are made with heavy loads.

END

(Please resume your reading on p. 40)



A PROFITABLE LESSON

IT'S as easy as A B C to understand why faulty Carburetors and Fuel Pumps waste gas. Any mechanic will give you the answer.

Order a check-up on these vital units—Today! Unless they are operating at top efficiency you are not getting maximum mileage per gallon!

To recondition CARBURETORS AND FUEL PUMPS on a strictly economy basis have the work done in your own shop, with Hygrade CONTAIN-ALL KITS. Each kit contains all the parts for a complete rebuilding job. You know that all the wearing parts have been replaced because you do the work yourself.

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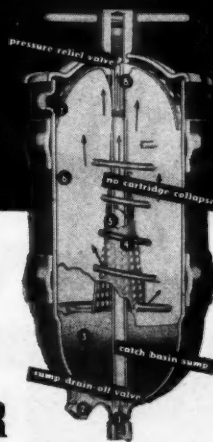
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fleets using DeLuxe than any other. Get the facts about DeLuxe today. Address DeLuxe Products Corp., 1406 Lake Street, La Porte, Indiana. In Canada: 364 Richmond Street, W., Toronto, Ontario. And remember that the fundamental reason for DeLuxe's superiority in making oil and motors last longer is that it



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TRUCKS FOR VICTORY

(CONTINUED FROM PAGE 23)

cars than they owned in 1929, and at the peak of 1941 they had very little equipment to spare. In that same year, 1941, trucks carried, according to the estimates of the Interstate Commerce Commission, which I think were low, at least 18 per cent as many ton-miles as the railroads, and much of it was the kind of short-haul merchandise traffic which it is

most difficult for the railroads to handle efficiently. You can figure for yourself where the railroads would have been if they had not had that help from the trucks. Not only that, but the extensive use which they are making of the truck in their own terminal and way-station service was a most important factor in the speeding up of freight car movement.

When I speak of the truck, I do not confine myself to those which carry on over-the-road operations in common carrier service, although

they are doing splendid work, but I include the contract carriers, and also the millions of trucks which are not engaged in for-hire service but in private operations for all manner of industries, large and small, in both over-the-road and local delivery service, and for the farmers as well. That these trucks, of all kinds and descriptions, have been doing an invaluable service, along with the railroads, the water carriers, the pipe lines and the air carriers in meeting the transportation needs of the war is perfectly clear.

Not all of this transportation, of course, has been directly related to the war production program, although much of it has been, but the subsistence and vigor of the people of our country are as essential in time of war as guns and ammunition. Furthermore, I know, as do you, that the truck has been extensively and continually used by the military authorities where quick and immediate movements were necessary and for articles of unusual dimensions which could not be moved so readily or well by freight car, and many of these movements have been for long distances.

Now let us take account of stock. I don't need to tell you that in production and also in war, transportation is today an indispensable factor all along the line. We can't fight or live without it, and if transportation ever bogs down, the war effort will bog down with it. Everybody admits that this is so. Thus far transportation has done its job well. No errors have been chalked up against it, although the job has been tough. The fact is, however, that it is not getting any easier. Quite the contrary.

Take the railroads, for example. Not only is traffic in general growing all the time, but because of the discontinuance of intercoastal and coast-wise shipping the railroads have had thrown upon them an extra and very heavy load of long-haul freight, so that their ton-miles have been increasing at more than double the rate of carloadings. An illustration is the tremendous volume of petroleum traffic that they are now carrying to the eastern seaboard in lieu of the ocean tankers. And the end of the diversion to rail of waterborne freight is not yet in sight.

There is another dark side to the
(TURN TO PAGE 118, PLEASE)

HALL VALVE SERVICE DOMINATES THE AIR TOO!

If your HALL ECCENTRIC Grinder needs it, better let us recondition it for you right now. Ask your Jobber.

In airplane engine factories and at air depots of the armed services of our own and allied nations, you'll find valves being ground with some type of HALL ECCENTRIC Valve Seat Grinder. Many of these installations consist of entire batteries of these Grinders. In this field, as in automotive service and production, the HALL ECCENTRIC method of seat grinding has been universally adopted because of its finer precision and finish and greater speed and economy.

THE HALL MANUFACTURING CO., TOLEDO, OHIO

HALL ECCENTRIC SEAT GRINDERS

TO KEEP YOUR FLEET
Rolling Longer



OIL MUST BE KEPT CLEAN

The Japs and the Nazis would love to throw a monkey-wrench into America's transportation system. They'd do anything to put *your* fleet out of business!

But—the chief danger today comes not from abroad, but from inside the engine. It's *dirty oil*! You can't conserve engine life if you fail to keep the oil clean. Dirt and abrasives, if not removed, may ruin vital engine parts which can be replaced only after long delay—if they can be replaced at all. Even if parts are obtainable—they use up metal essential to the war effort.

Don't take chances. When oil filter refills are needed, get them quick and get the best. Insist on genuine Purolator elements. They hold more dirt—and last longer. The complete Purolator line includes elements for all types of installations... for both fuel and lubricating oil filtration.

KEEP IT CLEAN
with
PUROLATOR

PUROLATOR PRODUCTS, Inc., Newark, N. J., *Founder and leader of the oil filter industry*

(CONTINUED FROM PAGE 114)
 railroad story. Our present war production program is by far the most gigantic in the history of the world. Our stocks of steel and other critical materials necessary for this war production program are limited. There is not enough to supply these needs and all of our normal needs. The War Production Board has the extraordinarily difficult task of dividing the limited stock of materials among all of these needs. Vital as transportation is, the railroads will have only

a comparatively few new cars and locomotives to take care of expanding traffic. The War Production Board is relying on them to meet the needs of the situation by taking up all possible slack and drawing on the last ounce of their reserve power.

That brings me to the trucks. As I have said, and as you know better than I, the railroads have not been carrying the transportation burden of this war alone. Other types of carriers, and particularly the trucks, so far as freight is concerned, have

been carrying a very large share; if the railroads ever lose the help of the trucks, or any considerable part of that help, they will be up against trouble for sure, and not only the railroads but our country and its war effort.

Unfortunately, the danger that such a thing may happen is not imaginary but very real. The reason is rubber. You have heard or read confusing statements about the rubber shortage, but by this time you must know, as I certainly know, that it is actual and most distressingly serious. Nearly all of our crude rubber came from sources which are now in the hands of the Japanese, and our allies were dependent on the same sources. We had quite a large stock on hand, but most of it will be required by the strictly military needs of the united nations. Very little of it, at best, will be available for trucks and buses, and practically none for private automobiles. We cannot safely expect a substitute source of supply in any volume from synthetic rubber plants for at least three years, and perhaps not then. When that supply is at length available, most of it will be required for military needs, if the war is then still going on. The situation is much the same with respect to the vehicles themselves. As you know, the manufacture of trucks for other than strictly military purposes has stopped.

Under such conditions, our trucks, buses and private automobiles, with the tires that are on them and such new tires as are on hand, constitute the most precious stockpile that our country possesses, and one that must be protected and preserved at all costs. In some way and somehow, we must keep these vehicles in service for essential purposes during the duration. We must and will do this, but it cannot be done without infinite care and a lot of hardship and sacrifice. Fortunately the people of this country are not afraid of trouble and pain or anything that may be necessary to win the war. All that they want is to be sure that it is necessary, and that the burdens are distributed as fairly and wisely as possible.

One thing must be perfectly plain, and that is that you must care for your trucks and your tires as you have never cared for them before.

(TURN TO PAGE 120, PLEASE)

A.C. WELDING'S

Seven League BOOTS!

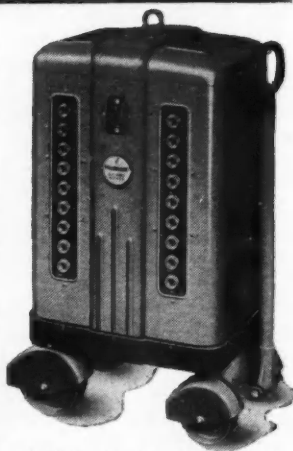
**FOR FAST
ECONOMICAL REPAIRS**



Maintenance men cover a lot of ground in a hurry when they make repairs with the amazingly fast and efficient method of A.C. electric welding.

Engine block, body and chassis repair jobs that ordinarily require hours of costly lay-up time are gotten out in minutes with a versatile MARQUETTE welder . . . often without even the need of dismantling the breakdown.

With replacement parts becoming increasingly more costly, and harder to get, it is imperative to salvage every item possible. Electric welding makes damaged parts as good as new and avoids the delay and expense of replacements. Low initial and operating costs enables a MARQUETTE to soon pay for itself by reducing labor and material costs in your repair shop.



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MARQUETTE

REG. U.S. PAT. OFF.

A.C. ARC WELDERS

PISTONS are still our job



OHIO, a name long familiar to users of pistons for replacement work, is now becoming well known on the war front. Every man- and machine-hour we can squeeze into a working day is turning out pistons for fighters.

DEPENDABILITY comes first when you're making parts for Army and Navy engines. Making the finest pistons possible has always been a habit of ours, so we naturally went all-out on this job.

LYNITE* PISTONS, machined and sold by OHIO, continue to set the pace for high quality in the automotive replacement market. LYNITE PISTONS help assure top efficiency and smooth engine performance.

**Lynite is a registered trade-mark of Aluminum Company of America, makers of castings for genuine Lynite Pistons.*

THE OHIO PISTON CO.

CLEVELAND, OHIO

(CONTINUED FROM PAGE 118)

Fortunately the opportunities for improvement are very great and capable of producing astonishing results. Many of you have been careless in your use of vehicles and tires, because it has been so easy to get new ones. Now that you must guard these possessions like precious jewels, it will be quite a different story. Some very close and careful operators have already shown you the way. On my desk I have a photograph of a tank truck in the Pacific Northwest

which has operated 1,223,000 miles. It has been maintained with constant and scrupulous care, and in the picture it looks as good as new. The tires, I am told, have a record of nearly a million miles. They have been recapped and repaired from time to time, but otherwise they are the same old tires.

We shall soon make available to every truck operator in the country in concise and attractive form, with numerous illustrations, the best information that can be obtained in re-

gard to ways and means of caring for and preserving both vehicles and tires. We have also promoted the organization of the industry for education of this sort, including the opportunities for reclaiming materials and parts, and already such information is in wide circulation. Personally I regard all this as of extraordinary importance, for I am thoroughly persuaded that, if cared for in the best way, both vehicles and tires can be kept going far longer than most people have even imagined.

The next vital step is to get rid of wasteful and unnecessary operations, so that the trucks and the tires can do the greatest possible work with the least possible use. The four orders which have been issued are intended as a long step in that direction. Truck operations differ in such innumerable ways and are carried on by so many thousands, if not millions, of different companies and persons that it is exceedingly difficult to frame such orders to take care properly of all contingencies. We realized that fully when they were issued, and set the effective dates far enough ahead so that there would be full opportunity to present objections. We shall not retreat from the objectives, because we regard them as absolutely essential, but it is quite probable that we shall be able to improve somewhat the methods of accomplishing those objectives before the orders become effective.

The war production program and the curtailment of much normal civilian production have changed the industrial map very considerably, and the character and flow of freight traffic as well. Because of this fact, and also because many motor carriers have in the past specialized on some particular kind of traffic or have operated within a very limited territory, there are, here and there throughout the country, trucks which are idle or partially so, whereas many others are tendered more traffic than they can handle. This is a situation which must be corrected, although it is not altogether an easy one to correct. Our Division of Motor Transport is working on that problem, and tells me that it expects to come forward very soon now with recommendations for its solution.

Another disturbing fact is the ex-

(TURN TO PAGE 122, PLEASE)

"IGNITION"
*at your
finger tips*

**A
FREE
SERVICE**
*By the
Makers
of*
BLUE STREAK
TRADE MARK REG. U.S. PAT. OFF.
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STANDARD'S "Blue Streak" Service
Bulletins place at your finger tips the answers to many of the ignition problems that come up every day in the course of your regular work.

They can be of tremendous help to you—saving your time—enabling you to do a better job.

You can get these "Blue Streak" Service Bulletins every month, absolutely FREE, back issues for three years included, as a part of our Dealer Co-operation Service.

Write today for full particulars
STANDARD MOTOR PRODUCTS, INC.
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FOR WANT OF A JACK A TIRE WAS SHOT!



Save tire damage by equipping each truck in your fleet with a

HEIN-WERNER HYDRAULIC JACK

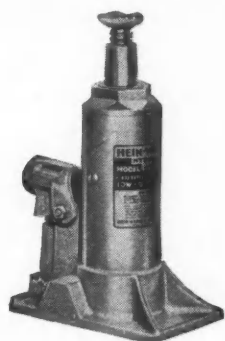
The rubber shortage caused by the war makes it more important than ever that every precaution should be taken to assure maximum life of tires.

A Hein-Werner Jack can contribute to the conservation of tires. No need to drive on a flat and possibly ruin tire and tube. Loads can be lifted "on the spot" and tires quickly changed.

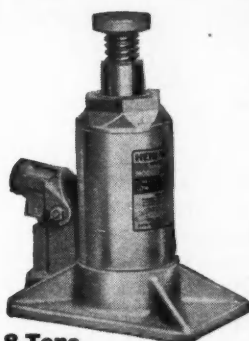
Better check today. Complete H-W line includes super-powerful, easy operating hydraulic jacks of 1½, 3, 5, 8, 12 and 20 tons capacity.

For details and latest prices, ask your H-W jobber, or write us
HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

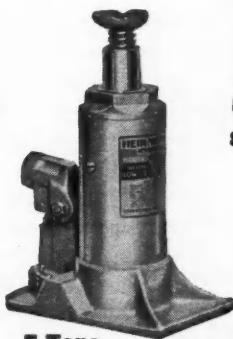
**HEIN-WERNER
HYDRAULIC JACKS**
Are Built Right and Priced Right



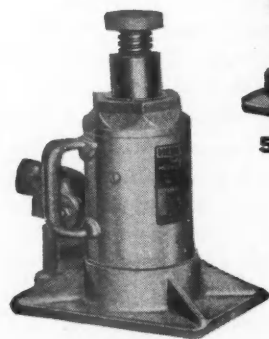
3 Tons



8 Tons



5 Tons



12 Tons



20 Tons

(CONTINUED FROM PAGE 120)

tent to which operations of trucks across state lines have been interrupted and hampered by the wide variations in state laws, rules, and regulations. This has caused much concern to the military authorities, because the trucks which have encountered these difficulties have often been carrying Army or Navy traffic demanding very expeditious movement. I am glad to say that state authorities quite generally have shown a disposition to remove such barriers

to wartime traffic by relaxing their rules and regulations to the extent possible, and they have been very helpful.

You have heard the idea advanced quite often in these days that each form of transportation should be used where it is most efficient, and as an illustration the thought has been expressed that the trucks are more efficient for short hauls and the railroads for long hauls, so that there should be shifts of traffic accordingly. I understand, also, that these views have

brought considerable alarm to the trucking industry. They are not altogether without merit. For instance, it is true beyond any question that the tank truck is much more efficient for short hauls than the railroad tank car, and as one of the means of augmenting the supply of tank cars which can be used in lieu of the ocean tankers to haul oil to the eastern seaboard, we are endeavoring, and with much success, to have tank trucks substituted so far as possible for tank cars where the haul is under 100 miles. Often, in the case of such hauls, a truck replaces several cars.

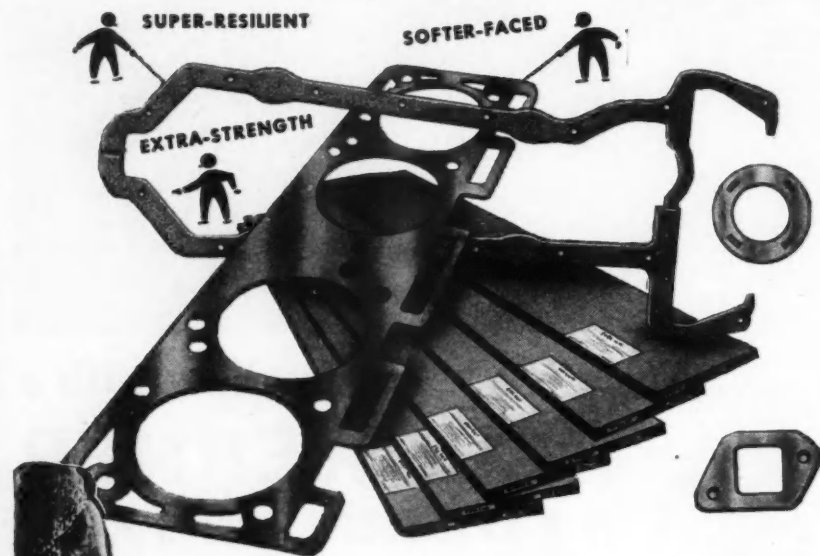
We have also, in our General Order No. 1 with respect to the loading of less-than-carload rail traffic, taken steps which tend to promote the use of trucks for short hauls of such traffic and particularly for intra-terminal movements. Contrariwise the same order tends, in my judgment, to promote long-haul movement of such traffic by rail. We have men engaged, jointly for the Rail Transport and the Motor Transport divisions, in studying other situations where like shifts can perhaps be made with improvement of general transportation efficiency. However, we realize that the general proposition that trucks are more efficient for short hauls and railroads for long hauls is open to many exceptions, particularly where expedition of movement is a factor; that there is no definite line which can be drawn between long and short hauls; and that what may be true of one kind of traffic or in one territory may not be true of another kind of traffic or in another territory. You may be sure that we shall not proceed in such matters either hastily or arbitrarily.

Let me say in closing that we greatly appreciate the cooperation which we have constantly received from the truck operators in all these matters. It is not surprising if at times you have been alarmed and apprehensive, and in view of the rubber situation there is much cause for alarm on the part of us all. But in spite of this alarm, you have always been anxious to do your part in winning the war regardless of costs and to help us in arriving at sound conclusions. I believe that you also credit us, and rightly, with a keen desire to save you from any unnecessary harm.

END

(Please resume your reading on P. 22)

RESEARCH by Fel-Pro makes the DIFFERENCE



● These special qualities of Fel-Pro Gaskets—which enable them to resist the severest service demands of modern motors—are the result of Fel-Pro's long experience in developing gaskets to meet all possible requirements in the automotive and industrial fields. Get the benefit of this experience. Write for details and a copy of the Fel-Pro Catalog.

Research Is the Key to Fel-Pro Success In Serving Industry, The Car Maker and The Automobile Replacement Field.

FEL-PRO

Gaskets
PUMP PACKING
GREASE RETAINERS

FELT PRODUCTS MFG. CO., 1520 CARROLL AVE., CHICAGO, ILL.



IN THE NEXT few seconds, this U.S. submarine will have to submerge again. Under water it must live on storage batteries. Striving for bat-

tery perfection, the Navy uses many Fiberglas-equipped batteries for increased life and dependable power.

For war's tough going, storage batteries get new stamina

WHEN a submarine "pops up" to the surface and opens fire, the shudder and vibration in every part are terrific.

Tanks . . . trucks . . . armored cars, jouncing over rough terrain at high speeds, get an awful beating in every bolt and member.

Even delicate signal-corps radio equipment must be able to stand up and be in working order, no matter how rough the going.

The storage batteries that furnish the vital power for these weapons *mustn't* go dead, even when the going gets tough.

How are battery manufacturers putting this needed stamina into their product?

The answer is one of those everyday advances which American industry so often performs. For leading battery manufacturers found a way to match this war's tough demands with a battery that could "take it."

What they did was to use a thin glass mat, made of Fiberglas.*

This thin sheet of Fiberglas is called a retainer mat. It *retains* the "juice-

making" material on the plates of a battery longer . . . where it *must* stay to give full power.

Today, our armed forces have batteries with new stamina . . . that fail much less easily under terrific vibration and that respond with *live power*, in the cold of Iceland or the heat of Libya!

Fortunately, these Fiberglas-equipped batteries are available to civilians, too. Under normal conditions, for cars and trucks, these batteries have practically double life. (1)

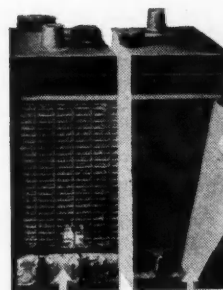
And batteries with Fiberglas retainer mats have other advantages, too. For Fiberglas itself is *not* rationed. It is made from materials native to continental United States. Production is keeping up with mounting demands.

Battery manufacturers have also used these retainer mats to help eliminate rubber parts in batteries. Through longer life of Fiberglas-equipped batteries, they are also conserving lead.

(1) According to official testing laboratories of National Battery Mfg. Assoc., conducted under S. A. E. specifications.

To get Fiberglas-equipped batteries for your trucks or buses, consult your battery distributor.

Owens-Corning Fiberglas Corporation, Toledo, Ohio. In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.



(Left)
Without Fiberglas Retainer Mat on positive plate, power-producing material sheds and falls on battery floor.

(Right)
With Fiberglas Retainer Mat, material is retained on battery plate longer, delivering a stronger, steadier flow of power.

OWENS - CORNING

FIBERGLAS

*T. M. Reg. U.S. Pat. Off.

(CONTINUED FROM PAGE 23)

that between the two extreme examples of 10 times the life on one hand and 50 per cent life on the other, that there is room for a good deal of serious consideration when the prolonging of the life of any wearing part is our main consideration.

Another typical example, of course, is tires and while it may be already well known, I think it will serve a useful purpose if we again take time to realize that the same story holds true. In connection with tires we should not fail to take note of the cir-

cumstances where some operators, to obtain extra tire mileage, have used oversize tires on their axles. If, therefore, the size of their tires is regarded by them as the measure of loading, while they may not be overloading their tires, they can still be overloading the component parts of the axle and hence defeating the purpose of conservation. Therefore, the operator who for reasons best known to him has been running larger tires than his axle rating justifies, must revise his scale of loading and return to the actual engineering rating.

The engineer's part is to point out the facts, and it is left to you to employ the same economic sense and intelligence that you have used in the past to build your business up in the transportation field, to the business of prolonging the vehicle life in every detail.

I am not losing sight of the fact that this will call for a good deal of hard thinking and a consideration of circumstances which are not entirely under your control. Fleets are a vital part of maintaining war production and it will be hard to control the loading of vehicles to a point of where it will not impede the efficient operation of plants which are serviced by trucks. Nevertheless, we cannot ignore the fundamental importance of the effect of loading and that any overload calls for a disproportionate increase in the life of any part so loaded.

Our next consideration is speed. First of all we should analyze just what effect speed has on life of wearing parts and just what gains can be made by a change in operation. It is a fundamental fact that the loads and, therefore, the rate of wear of parts increase as the square of the speed. Under such circumstances again we have the same disproportion found when considering overloading. A typical example can be used to illustrate this point. An engine governed at 2600 r.p.m. if raised 10 per cent to 2860 r.p.m., would have the connecting rod bearing load increased 21 per cent. We, therefore, have only to think of all the rotating parts in the power producing parts of the chassis and envision what change can be made in the operation of the vehicles to effect conservation of each of those parts. We are, therefore, faced with consid-

(TURN TO PAGE 132, PLEASE)

Fleet Operators large and small—using all kinds of equipment—depend on GATKE CUSTOM-BILT Brake Blocks for smooth, non-grabbing action with dependable stopping power and tremendous wear life under all conditions.

Now when tires are scarce and time is short, they are finding the GATKE Simplified Fleet Survey System especially valuable. It brings them the experience-proved answer for every brake—and saves time besides.

Ask your GATKE Jobber how it works, or write.

INTRODUCED Genuine Moulded
Brake Lining for automotive use.

ORIGINATED Wire-Back Moulded Brake Block

DEVELOPED the first patentable automotive brake lining.

PIONEERED *CUSTOM-BILT* Brake
Lining Sets.

LED the development of Brake Blocks for Trucks, Trailers and Buses.

CHAMPIONED the correct balance between liners of primary and secondary shoes as essential to maximum brake efficiency.

INVENTED Grooved DURA-BLOK
Brake Lining.

PERFECTED the Simplified Brake
Survey System for Fleet Oper-
ators.

GATKE CORPORATION

228 N. La Salle St.

Chicago, Ill.

29

Eastman Says Nation Faces Railroad Jam

Fears Lines Can't Carry
War Load Increased by
Restriction on Rubber

From the Herald Tribune Bureau
CHICAGO, April 29.—Joseph B.
Eastman, Director of Defense Trans-
portation, said today that the na-



Trucks Must Carry More! CONVERT 4 WHEEL TRUCKS into SIX-WHEELERS!

● Half-way measures won't win this War! But we're using half-way measures when thousands of four-wheel trucks continue to waste their potential carrying capacity. Adding a Trucktor Third Axle unit can double the payload of our present four-wheelers—without taxing our reserves of vital materials and manpower!

A Trucktored six-wheeler requires less rubber, steel and vital automotive parts than two four-wheel trucks. Less gas and oil are consumed. Vital manpower is saved by eliminating one driver, plus the labor required to build and service the extra truck. Furthermore, a Trucktored six-wheeler is easier on the highways, safer and more maneuverable than multi-unit vehicles of similar capacity.

Double the Payload!

-while saving RUBBER,
STEEL, GAS, OIL
and MANPOWER



Owners of four-wheel trucks! Double your present payloads by converting to six-wheelers with Trucktor Third Axles. Write for information NOW!

THE TRUCKTOR CORPORATION
156 Wilson Avenue • Newark, N. J.

Trucktor

THIRD AXLES

(CONTINUED FROM PAGE 130)

ering reducing the governed speed of the engine, realizing that by so doing we can increase the life of those parts considerably. Again, I realize that such a reduction in your engine r.p.m. may affect your schedule of operation to a point where this is not possible but, in any case, until a very careful survey has been made, this factor should be very seriously considered. It can also be said that even though it may involve some extra operating cost, the importance of

material itself is the main consideration due to the possible lack of parts for replacement purposes.

Modern truck engines are designed to run at relatively high speeds and the manufacturers' governed speed in the past has been based on a standard of wear life, which the economics of normal times justified. This recommendation for consideration of a decreased governed speed is again based on economics, but under abnormal conditions. It is important that we see this in its true perspec-

tive. Certainly before anything else is done, it is imperative to see that no engine in your vehicles operates above the recommended manufacturers' governed speed. This calls for a very careful checking of your governors, and where any operators have felt, in the past, that for good and sufficient reasons governors could be blocked open or taken off, those governors should be immediately placed back on the engines.

A further pertinent example of the effect of speed is shown by the latest study on tires—assuming good inflation and proper loading, the reduction in mileage starting with 30 m.p.h. at 100 per cent is expressed as follows: 40 m.p.h. 78 per cent, 50 m.p.h. 60 per cent, 60 m.p.h. 45 per cent. These figures are self-explanatory as a guide to the desirability of the lowest possible operating speed consistent with other factors of operation.

All of this leads us into the question of what the driver can contribute. Up to now we have been dealing with inanimate materials.

Our consideration now is of the human material in truck operation. Today additional time, effort and intelligence must be brought to educate the driver in his part in conservation of material. It is not unfair to say that a driver may have a perfect safety record but nevertheless his method of operation can be definitely one which may occasion a rapid wearing out of the operating parts of the chassis. It would seem, therefore, that we have to lay down some rules for driver operation as clearly, concisely and authoritatively as has been done in the past in connection with safety in operation.

The engine undoubtedly is the most important item in the power transmission and is directly under the driver's control from the moment he enters the cab. A tentative set of rules for his strict adherence might be as follows:

1. When starting from cold, the engine should be warmed up slowly. This will allow the oil to reach a good operating temperature and prevent scuffing of pistons. In this connection, he should use extreme care in the use of the choke; and, of course, wherever possible keeping the trucks in a heated garage will
- (TURN TO PAGE 134, PLEASE)

**ONLY THE
MICRO-LINOR**
*Detects ALL These Causes
of Excessive* **TIRE
WEAR**

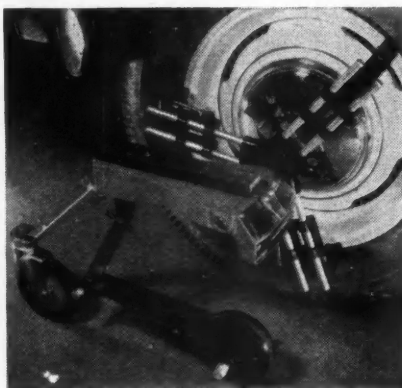
1. Shifted Rear Axle
2. Shifted Front Axle
3. Bent Frame
4. Bent Steering Arms
5. Bent Spindles
6. Bent Axles
7. Bent Tie-rods

— and They're
the Most Common Causes
of Faulty Wheel-Roll

Correcting camber, caster and toe-in accomplishes but little in lengthening the life of tires unless the mechanical troubles which are causing such misadjustments are also corrected. And that's where the Micro-Linor comes in!

In a few minutes' time, and without the use of a jack, the Micro-Linor analyzes all of the most common wheel misalignments enumerated above. By means of a "tracer wheel" it makes its check-up with the truck actually in motion, showing exactly what is happening to your tires when the truck is traveling on the road.

Heretofore, because of the time involved, the practice generally has been to ignore all mis-alignments except cam-



ber, caster and toe-in, despite the fact that after these had been corrected, excessive tire wear continued unabated. But now, with the Micro-Linor, locating the mechanical defects has become so simple that thorough check-ups require but little longer than inflating the tires.

With tires constituting 52% of the annual outlay for parts to keep a truck rolling, it's good business to protect them. Get a Micro-Linor! It costs hardly more than a single truck tire—in fact, in many cases less. Write today for complete information.



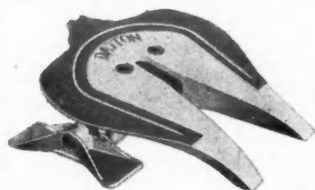
The Testing Apparatus Co., Inc.
1629 W. Fort
Detroit, Mich.

Free
CATALOG

MICRO-LINOR
The New "Tracer-Wheel" Principle

New
**TRACER
WHEEL
Principle**

A SIMPLE WAY TO GET MORE TIRE MILEAGE...

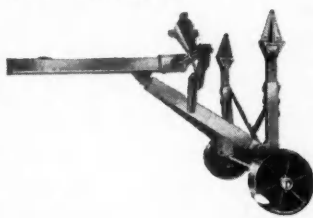


DAYTON FIFTH WHEELS

Standard equipment on a number of trailers. Quick coupling, positive in operation.

DAYTON LANDING GEARS

Vertical-Hydraulic and Mechanical Swinging.



LICK DESTRUCTIVE HEAT WITH AIR-COOLING DAYTON WHEELS

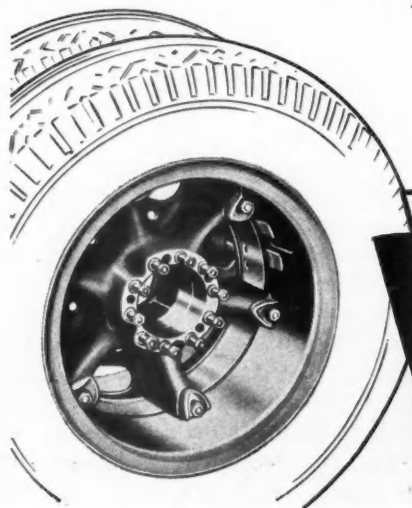
Many operators are amazed at the way tire mileage increases on trucks equipped with Dayton Steel Spoke Wheels — yet the reasons are really simple. Daytons lick the profit-cutting operating problem of HEAT. Dayton AIR-COOLING action actually fans heat away from tires and brake linings.

Daytons hold tires and rims positively in line — so the wheels run uniformly true, without wobble, bend or break. Large bolt circles for rim clamping studs

prevent rim slippage. And with Daytons you replace the rim only — not the entire wheel — in case the rim is damaged. No extra wheel is necessary — which means less weight to carry.

Dayton Steel Spoke Wheels are available on any of the following: *Trucks:* Autocar, Federal, International Harvester, Gramm, Mack, Studebaker, and White. *Trailers:* Fruehauf, Trailmobile, Gramm, Kingham, Edwards, and Mono. *Buses:* Brill, Mack, and Pullman.

Specify Dayton Wheels, Brake Drums, Fifth Wheels and Landing Gears for your own trucks, trailers or buses.



DAYTON WHEELS
BRAKE DRUMS • FIFTH WHEELS • LANDING GEARS
THE DAYTON STEEL FOUNDRY COMPANY, DAYTON, OHIO

(CONTINUED FROM PAGE 132)

also have its effect in minimizing the injurious effects of starting a cold engine.

2. A very careful check should be kept by him on the engine temperature and, when necessary, shutters or covers must be used to keep this temperature up at its normal level.
3. The engine speed must be held to a minimum at all times for every particular portion of his run; this minimum, of course,

being within good driving range. If the governed speed for the engine is 2600, the engine speed should be held up to around 2000.

4. Reasonable acceleration is also vital. Rapid acceleration definitely should be ruled out. In climbing hills, part throttle should be used, and it is better to run part throttle on the lower gear than to run wide open on the higher gear under loads. No coasting of hills at high speeds

using engine as a brake should be permitted. Brake lining will be easier to replace than engine parts. Under no circumstances should the driver run in low gear for any great distance. This gear is designed primarily as a starting gear and not a continuous running gear.

Such precautions as these should increase the life of pistons, cylinders and bearings possibly as much as 20 per cent, and all this is directly under the control of the driver. It is easy, also, to see where the transmission life and rear axle life can similarly be prolonged by careful driving. There will be, undoubtedly, many other points that will suggest themselves to you in over-the-road operation that will still further prolong engine, transmission and rear axle life.

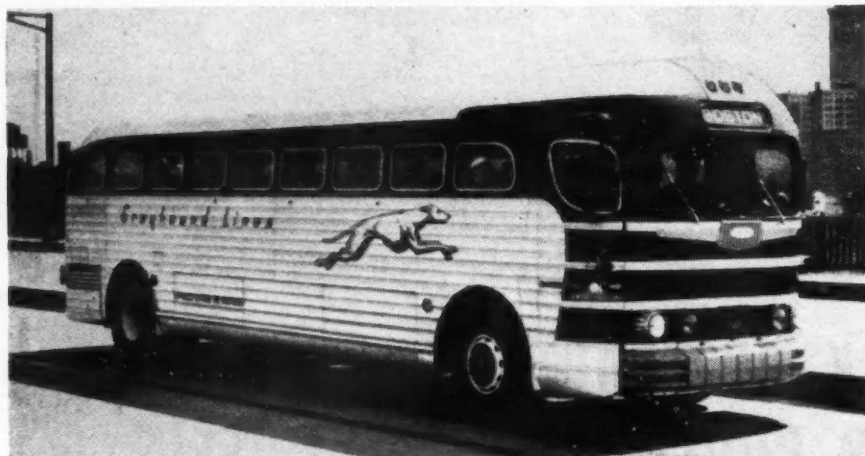
Certainly it can be appreciated that the above suggestions will also have a beneficial effect on tire and brake lining in addition to the gain from careful maintenance of inflation pressure and loads. The amount of rubber that is destroyed by extremely fast starting and severe braking is out of all proportion to normal running wear.

We may, therefore, at this point sum up briefly the main causes which are in your control and these points in addition to maintenance:

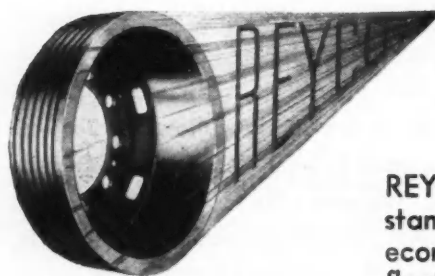
1. That a careful study must be made to arrange your operations so that only under unusual conditions will the recommended engineering ratings be exceeded.
2. That additional study must be made to further rearrange the schedules so that the engine speed can be held at least 10 per cent lower than at present.
3. That the entire thinking of the driver be focused on his part in this conservation program.

In all this discussion so far no mention has been made of the part that gasoline and oil play in it. This omission has been made on the assumption that they are the least important factors, as far as availability is concerned. It is believed that these two commodities will be much more readily available than replacement parts. However, in the overall picture the benefits of the proposed changes in operation must inevitably result in better mileage figures for

(TURN TO PAGE 156, PLEASE)



GREYHOUND STOPS *SAFELY* with



BRAKE DRUMS

REYCO Brake Drums provide the standard for safe, efficient and economical braking for the largest fleets in America.

Improved braking performance—longer life for brake drums and brake blocks—fewer brake adjustments.

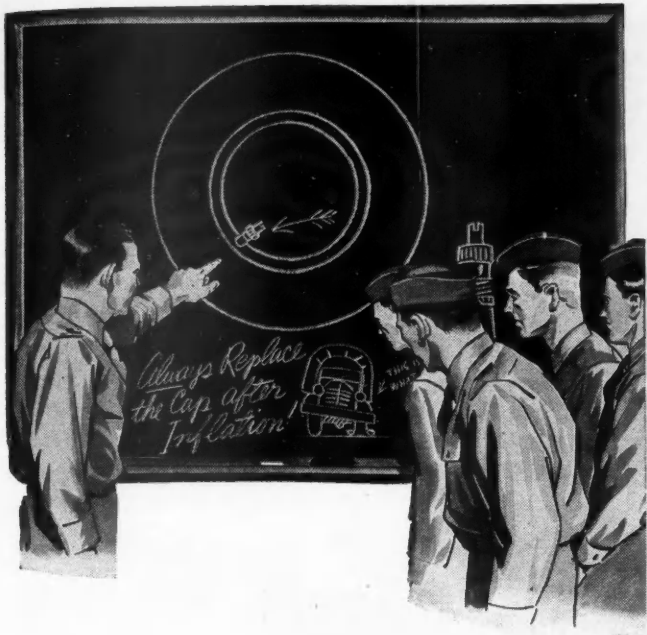
Become acquainted with REYCO safety and economy now—under your own operating conditions.

Write for Full Particulars

REYNOLDS MANUFACTURING CO.

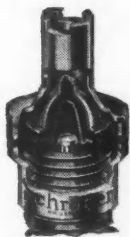
Springfield, Missouri

**• REYCO •
BRAKE DRUMS**



STRATEGY FOR DEFEATING UNDERINFLATION

To save tires from destruction by underinflation it is necessary to quickly detect and repair the causes of slow leaks. First, seal all tire valves with air-tight Schrader Valve Caps, thereby eliminating tire valves as possible sources of trouble. Then if a tire loses air excessively, you know the leak is in the tube, because a valve sealed with an air-tight cap cannot leak! With a leak thus isolated, your service man can go right about making the repair without doubt or loss of time.



All Standard Schrader Valve Caps are built with this doubly reinforced sealing unit. Guaranteed air-tight up to 250 lbs. pressure.

Schrader VALVE CAPS

REG. U.S. PAT. OFF.
ALWAYS REPLACE THEM AFTER INFLATION

A. SCHRADER'S SON, BROOKLYN, N. Y.
Division of Scovill Manufacturing Company, Incorporated

JUNE, 1942

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DULUX

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keeps 'em rolling

MORE TRIPS TO
DELIVER THE GOODS →

← FEWER TRIPS TO
THE PAINT SHOP

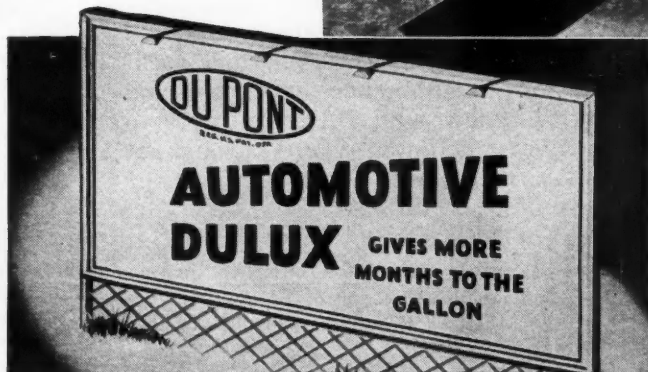
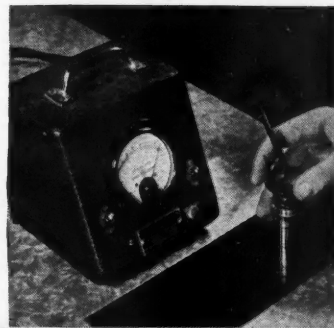
IT'S pretty obvious that a truck tied up in the paint shop isn't serving America today. By making these trips to the paint shop necessary less frequently, fleet operators gain in productive time. But this is only one of the four reasons why **DULUX** keeps 'em rolling:

1. It gives a hard, tough film that resists scratches and bangs—for full protection against rust.
2. It goes on easily, dries quickly. Gives high gloss, without rubbing. Cuts labor cost of painting. Gets the truck rolling sooner.
3. Gives longer life with full color, gloss and protection. Trucks go to the paint shop less often—spend more time on the road.
4. Makes the fleet sparkle. Gives you better advertising.

E. I. du Pont de Nemours & Co. (Inc.)
Finishes Division, Refinish Sales, Wilmington, Delaware

MEASURING THE "SKIN DEPTH"

● Measuring film thickness to the nearest ten-thousandth of an inch! By means of this testing device, Du Pont Chemists can tell you if you are securing the proper film thickness to give adequate protection to your invaluable trucks.



SALVAGING MILEAGE

(CONTINUED FROM PAGE 134)

both oil and gasoline. We should very carefully, in the driver instructions, lay stress on the desirability of avoiding detonation, and that, where necessary, changes should be made in ignition timing, carburetor and compression ratio. Excessive detonation in many engines may cause, in addition to blown out gaskets, cracked cylinder heads. What is more important, it may cause serious piston breakage. This breakage, of course, is usually confined to the piston ring lands.

The octane rating of gasoline for the future is uncertain and changes in this may come unexpectedly. The driver, therefore, is the only person who can control this to some degree by his operation and report at the earliest possible moment that such control on his part is no longer possible and still be able to meet the schedules that have been set up.

(Ed. Note—In the discussion period Mr. Cass suggested that to take care of detonation the spark be re-

tarded no more than five or six degrees. More than that, he pointed out, might lead to burning out of valves. Operators, he said, should also consider the use of a larger main jet in the carburetor to eliminate knock. This, he admitted, would result in a loss in gasoline economy but it would be well worth it.)

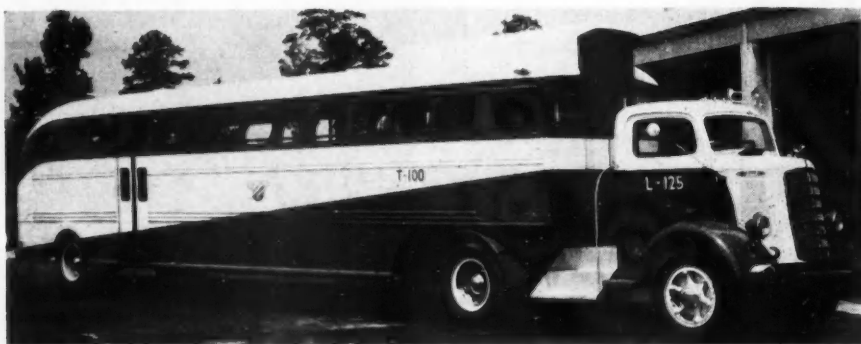
Aluminum pistons as compared to cast iron pistons make possible lower loadings on engine bearings. They are extremely valuable because of the possibility of their having to be replaced in the future with cast iron pistons. If a change of cast iron

pistons becomes necessary, the engine speeds must automatically be lowered; but even with such lowered speeds, connecting rod bearings will still be carrying higher loads than desirable. The aluminum piston, therefore, is vital from the conservation standpoint in your operation.

Finally perhaps we should realize that the same strategy and resourcefulness as is necessary on the war front is equally vital on our truck front.

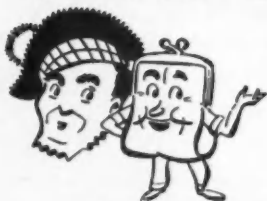
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(Please resume your reading on P. 24)



This huge Mack powered tractor-bus is used by the Army to ferry troops on hourly trips between Fort Benning and Columbus, Ga. Nine of these units were ordered by Howard Bus Company

VALUE..



FIRST cost plus maintenance determines the value you get when you buy a compressor. Compare the number of cylinders . . . pumping speed . . . size of tank—and you'll buy PAR. Check its lower operating temperatures . . . reduced power costs . . . and rock-bottom maintenance expense—and you'll know why PAR continues to deliver maximum value throughout years of service. Get more for your money . . . buy PAR!



"HOW TO BUY AN AIR COMPRESSOR" . . . *
FREE BOOK CHOCKED FULL OF WORTHWHILE TIPS—
GET YOUR COPY BEFORE BUYING . . . WRITE TODAY!

Lynch Manufacturing Corporation
(Formerly Modern Equipment Corporation)
DEFIANCE, OHIO, U. S. A.

BE SCOTCH
BUY PAR

ANTHONY *Super* HYDRAULIC HOISTS A COMPLETE LINE IN ONE DESIGN FROM—

5 to 30 ton



Anthony offers you the hoist with every desirable mechanical feature built into each of 9 super hoist sizes. Whether you buy a 1½ yard or a 20 yard dump body you get each and every Anthony Super Hydraulic Hoist feature. Here is the line of hoists specially constructed for profitable dump truck operation.



Line drawing shows location of "Rubber Restraining Blocks"

FASTER OPERATION — LONGER LIFE BECAUSE OF THESE FEATURES

- "Push-Pull" dash control
- Double Arm "Power-Speed" lift
- "Low Mounting Height"
- Special "Rubber Restraining Blocks"
- "Telescopic" hoist frame
- "Floating Gear," Pump, Etc.

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HIS JOB IS TO PROTECT OUR
DRIVERS—OUR LOADS AND OUR
OUTFITS. HE'S JUST ONE OF
OUR "TOUGH GUYS!"



We thank the TANK!
Road Proved by
men who use them.

American Safety Tank Co.

Underwriters Laboratories, Inc., A. U. 1302
KANSAS CITY, MISSOURI, U. S. A.

Cole-Herser
Keeps 'em Rolling

Cole-Herser

Switches and Connectors
when used as replacements
accomplish two definite and
important functions:—

FIRST

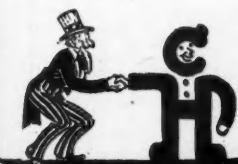
Increased operating
efficiency

SECOND

Make up for worn copper
wires, which are difficult to
replace!

Quality

ELECTRICAL AUTOMOTIVE
AND AVIATION EQUIPMENT



Cole-Herser Company

54 OLD COLONY AVE.

BOSTON, MASS.

America First!

During these critical times
we must all be considerate
of the problems confronting
us, therefore, late or incomplete
deliveries we hope will not
reflect against the good
will created between us
for over 25 years.

Keep 'em Rolling

WITH EFFICIENT
DRIVE ACCESSORIES

To keep present equipment rolling,
efficient power transmission
is vitally important.
Take advantage of Morse Morflex
Couplings and Drive Shafts.
They reduce friction, wear and
cut down maintenance cost . . .
require no lubrication—cushion
both starting and driving shocks.
Write for data.

MORSE CHAIN CO.
Detroit, Mich., Ithaca, N. Y.
Division of
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MORFLEX DRIVE SHAFT

MORFLEX

MORSE COUPLINGS and
DRIVE SHAFTS



GET FULL MILEAGE OUT OF GASOLINE

✓ Check the wire on every job!

"Stop Waste"—the first principle of a sound war economy.

Units with faulty ignition, defective wire and cable waste gasoline. Some waste up to 20% of all gas put in their tanks!

Wiry Joe says, "Stop this waste. Get full mileage out of gasoline. Check ignition and wire on every unit that comes into the shop. Make necessary repairs and replacements."

But make replacements cautiously! Don't waste copper wire—copper is a war material. If a wire or cable has merely corroded at the terminals, and can be cleaned, shortened or repaired—do it. If one or two wires go bad, replace the bad wires only. Keep wires clean. Wipe them off! Don't let oil and dirt cause unnecessary deterioration of insulation. Insulation is made of rubber.

Stop Waste.



WARTIME MOTOR CARRIER PROBLEMS

(CONTINUED FROM PAGE 21)

Mr. Kelly said it was a welcome discussion and that while some of the criticisms were justified others were not. On the whole, he declared, it was the sort of impartial and constructive study which any government agency should be glad to receive.

He admitted the plight of truck dealers was severe and verified the report that ODT is working with the Reconstruction Finance Corp. and WPB on a plan to give dealers relief from their financial problem. On the subject of dealers, Mr. Kelly reported that ODT had received a legal opinion to the effect that dealers with new trucks in stock cannot put these trucks to use without a PD310 release. The dealer who takes title to the trucks and puts them to use is violating the rationing order and subject to penalty.

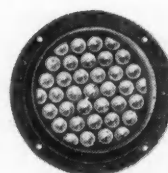
In the question period Robert Posey, of Shirk's Motor Express, Lancaster, Pa., touched on the ODT requirement that operators utilize the idle equipment of other carriers before applying for new vehicles. He said that the attempts his company has made to lease the equipment of other carriers have shown the costliness of leasing. In one case the carrier with idle equipment asked 20 cents a mile for the use of a tractor only, without driver and without gas. It is out of the question, he said, to lease equipment at such a price. Mr. Posey then illustrated his experience in trying to purchase outright the equipment which he had sought to lease. He found out that the other carrier wanted \$1,200 apiece for two tractors, each of which had already been operated 400,000 miles. And for a used trailer, which he knew from experience could not have cost more than \$1,250 originally, this same carrier wanted \$2,800.

These remarks prompted Mr. Kelly to say that ODT was working with WPB on the problem and that there was a possibility that a price ceiling would be placed on used trucks and on truck rentals. ODT is now trying to ascertain the available supply of used trucks.

"What About Rubber?" was the

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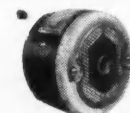
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No. 1292. For trucks, busses and trailers. Molded, one piece lens is protected by metal mask. Will withstand the most severe abuse, salt water, acid, heat and cold. Passes all S. A. E. and I. E. S. tests. Furnished in Red, Amber, Green or White.

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With Angle Bracket

No. 70 Lamp with 32 C. P. Bulb. Ideal for trucks with bodies extending a considerable distance beyond rear axle. Lamp bolt and bracket hole spacing permit four different mounting positions. Overall diameter 7 1/4 inches. Lamp body and bracket of heavy gauge steel. Five feet of heavy duty wire.



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DO-RAY Certified Safety Lighting and Equipment has been tested by recognized laboratories and passes specifications of S. A. E. and I. E. S. meeting requirements of I. C. C.



live topic which produced some answers from Arthur C. Horrocks, of the Goodyear Rubber Co. As now rationed, he said, there is an adequate supply of crude rubber for this year and next year until the synthetic plants get into production at the end of 1943. The synthetic rubber known as butadiene, he said, is superior for all purposes to crude rubber although it will cost twice as much as crude. He figured it would cost about 38 cents a pound but compared this with the \$3 a pound which crude rubber brought during the last war.

Some crude rubber is now coming in from Ceylon—a trickle, from South America and from Africa but the quantity is not enough to give relief. The crude rubber produced from guayule, he said, was good but guayule offered no hope because it takes three years to develop a crop. The only hope rests with the production of an adequate supply of synthetic rubber. He admitted there was lots of reclaimed rubber in this country but tire makers have not found any way of compounding rubber to carry the loads at the speeds and for the mileages to which truck operators are accustomed.

"Surveying Fleet Personnel to Meet Wartime Conditions" was a subject ably discussed by Morgan B. Speir, Jr., of Horton Motor Lines, Charlotte, N. C.

Because of the war, said Mr. Speir, motor carriers are faced with these conditions:

1. Constantly changing personnel.
2. A diminishing labor supply.
3. Inexperienced personnel.
4. Operating difficulties.

These conditions in turn, according to Mr. Speir, place upon motor carriers the following obligations:

1. Analysis of own personnel (to determine what employees can be trained to handle more important jobs and be promoted).

2. Maintenance of active applicant files (because an applicant file that

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is not up to date is almost valueless under present conditions).

3. Arrangement of a release schedule with draft boards (in order to anticipate how many men may be expected to leave and how many should be trained).

4. Revision of training programs (to compensate for any necessary lowering of employment standards and to effect the increased efficiency demanded by conservation efforts).

Finally, Mr. Speir posed for questions to which motor carriers must give a great deal of thought from now on and for which they must find answers:

1. What sources of labor supply

are available to motor carriers?

2. What jobs in the motor carrier industry can be filled by women?

3. What modifications, if any, should be made in employment standards to meet wartime personnel problems?

4. What changes are necessary in training programs to meet war-time personnel problems.

Discussing these questions and answering some of them in part, Mr. Speir said that the sources of labor supply available are men 45 years of age and over; young men under draft age who can do office work; men rejected for military service because

(TURN TO PAGE 161, PLEASE)

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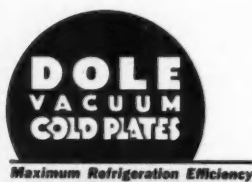
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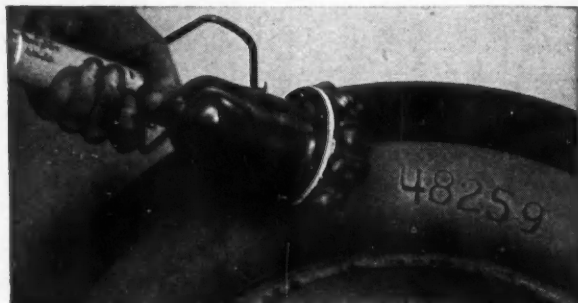


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EVERHOT ELECTRIC BRANDING IRONS have ten
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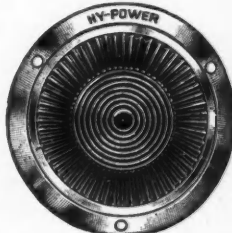
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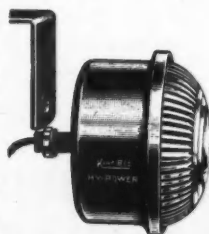
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lens. Does the job of practically all
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mounted. Re-
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(CONTINUED FROM PAGE 159)

of physical defects, and women of all ages. Mr. Speir said he had been advised by draft boards to get his driver replacements from the pool of men 45 years of age and over. The use of men with physical defects requires a study of what each man can do as determined by his defect.

More women will have to be used, Mr. Speir declared, and time alone will tell whether they will have to be used as truck drivers.

Regarding the modifications of employment standards, he had no specific answer but called attention to a suggestion he had received that standards should not be modified in writing, but merely deviated from, for the duration.

Changes that should be made in training programs calls for detailed and careful study and Mr. Speir had not yet formulated an answer.

Other operators took up these questions in the discussion period. One carrier, located in Chicago, said he was getting better drivers today than ever, some of them with 8 and 10-year National Safety Council safe-driving records. They were coming from building trades, he said, and from gas stations.

Another carrier reported that a Baltimore experiment with women drivers was successful. Driving a taxi and a truck, two women in two years had no accidents and their work was satisfactory.

In this connection it was pointed out that there was nothing in I.C.C. safety regulations to prohibit the hiring of women drivers.

R. R. Wynne, of Georgia Highway Express, felt that there would be no shortage of shop help. He said the tire shortage and gasoline rationing would make available many competent mechanics from garages, independent repair shops and car dealer service establishments.

A current personnel problem was raised when W. Robert Smith, Pennsylvania Truck Lines, Inc., Pittsburgh, asked if other operators were experiencing an increase in drinking by drivers. His own company had experienced an increase, he said, and the drivers had been fired with union approval. Another carrier reported that at the recent meeting of the Midwest Safety Council reports had been received that

(TURN TO PAGE 163, PLEASE)



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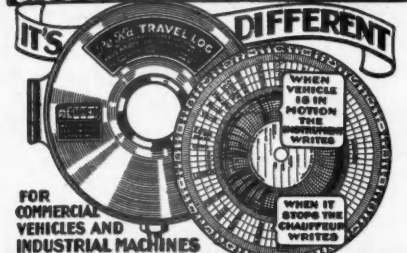
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(CONTINUED FROM PAGE 161)

driver drinking was increasing at a "tremendous rate." The increase dated from the declaration of war and was most noticeable among men of draft age who apparently feel they no longer need to protect their jobs.

On the subject of driver training James Hayden, of Horton Motor Lines, wondered if carriers have been training their drivers right. Certainly, he said, the need to conserve equipment has raised some new questions, such as: How long should the clutch be kept disengaged when starting? At what R.P.M. should the engine be warmed up, how long should the warm-up period take, and at what engine temperature should the vehicle start out? At what speed and for what length of time should a vehicle travel at the start of a trip in order to warm up the lubricant in the rear axle to a safe operating point?

The insurance problem which confronts motor carriers is occasioned by the transportation of munitions and explosives for the Government and the danger of excessive public liability and property damage claims in the event of accidental explosion.

Discussing this problem, Irvin S. Markel, of Markel Service, Inc., insurance agency, urged the establishment of an adequate liability limit, up to which motor carriers would be expected to protect themselves. Beyond this limit, he suggested, the Federal Government should underwrite losses just as it is underwriting damages and injuries suffered by the general public in the event of enemy bombings and underwriting excessive expenses of the makers of war material.

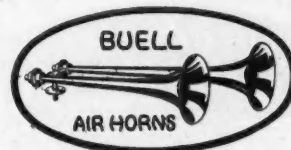
"It would appear in principle," said Mr. Markel, "that innocent people damaged or injured by an explosion while a truck is hauling for the Government should have as much consideration as people damaged by enemy bombs, as it is only incident to the war that motor carriers are hauling such explosives."

Acting upon Mr. Markel's suggestion a resolution was adopted requesting the Executive Committee of ATA to confer with Federal officials to work out a plan whereby the Federal Government would underwrite excess losses.

(TURN TO PAGE 164, PLEASE)

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Yes! AND WE CAN PROVE IT! WRITE TODAY.



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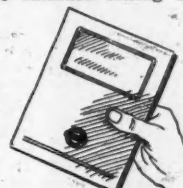
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(CONTINUED FROM PAGE 163)

In view of the insurance problem the topic "Precautions in the Transportation of Munitions" was timely and Col. A. B. Johnson, Ordnance Department, U. S. Army, handled it deftly.

In the handling of explosives, Col. Johnson said, carriers should follow the I.C.C. rules (Part VII) governing explosives. If the rules governing the handling of explosives are followed, the explosives "are as safe as a church," he said. But if an accident occurs there are precautions to be observed. To help in the observance of these precautions the Ordnance Department has instructed commanding officers of ordnance establishments to inform truck drivers:

1. Of the nature of the explosives loaded on their trucks.
2. Of the methods of fighting fires involving the truck or its cargo.
3. What distance the explosion will kill people.
4. At what distance buildings will be damaged or demolished.

If the fire cannot be extinguished and there is danger of explosion, drivers must see that police are notified; make every effort to warn occupants of buildings and persons in the open within radius of structural damage, and withdraw to a safe distance and continue to warn approaching persons of danger of explosion.

In answer to a question by William S. Lawrence, U. S. Truck Lines, Inc., Cleveland, Col. Johnson said that by and large ordinary impact of a passenger car with a truck would not cause explosion because the munitions are well packed. By far the greatest hazard, he said, is fire resulting from the collision.

This raised the question whether every truck carrying explosives should be equipped with a safety gas tank. George Wellington, I.C.C. safety director, said it would be difficult for any government agency to specify a patented tank, but admitted that the I.C.C. was working with the Society of Automotive Engineers to set up specifications for a tank that would be considered safe. There is no way of telling, he pointed out, whether materials for such a tank would be available.

Blackout lighting was the subject of a paper given by Lieut. E. B.

(TURN TO PAGE 166, PLEASE)



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SUPERRENCHES • SUPERSOCKETS
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It's clearer, with maximum freedom from distortion. Used in thousands of cars and trucks as original equipment. See your dealer or local Glass Shop. Libbey-Owens-Ford Glass Company, Nicholas Building, Toledo, Ohio.

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SPECIALLY BUILT FOR FLEET OPERATION
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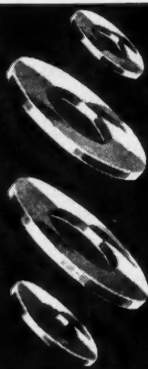
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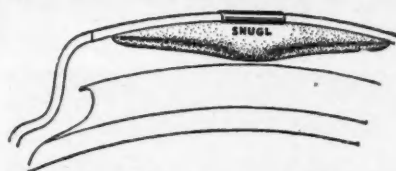
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As a service to ease the tire situation

Your customers are relying on you to "keep them running" for the duration.

Introduce them to SNUGL Fade-Away Balance Weights and they'll value your service more than ever.

Write today for information about SNUGL, the Balance Weights that are so easy to install, so efficient in operation.

MID-WESTERN AUTO PARTS, Manufacturers

824 East Elm Street

Kokomo, Indiana

KENNETH MILLS, Western Distributor

910 W. PICO, LOS ANGELES, CALIF.



**GUNK
CLEANS**

**New Army
Lustreless Paint
Preserves 100%
Camouflage . . .
No Shine**

This versatile, emulsifying solvent anticipates every military and industrial grease cleaning problem . . . especially effective cleaner for small arms and cannons.

THE CURRAN CORP., Mfg. Chemists, Malden, Mass.

GASOLINE

Sterling

DIESEL

**SUPER DUTY MOTOR TRUCKS
ARE ENGINEERED FOR THE JOB**

Specific models are offered for highway transportation, mining, quarrying, logging, stripping, excavating, etc., backed by more than 30 years' experience in the heavy duty truck field.

The only American motor truck with a shock absorbing wood-lined frame.

STERLING MOTORS CORPORATION

MILWAUKEE, WISCONSIN
Branches in Principal Cities

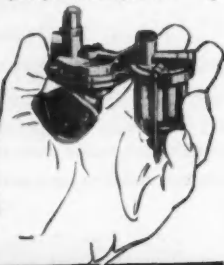
3 way service by Airtex . . .

For complete fuel pump economy the AIRTEX 3 way service is your best investment. It consists of:

- 1 A Diaphragm Kit for minor repairs
- 2 A Repair Kit for emergency repairs
- 3 A complete Exchange Service with option of new pumps at low exchange price.

Why not standardize on this AIRTEX service for fuel pumps. You can then furnish your customers with quality pumps—with guaranteed dependable performance . . . now.

Make your profits
jump with the
**AIRTEX
PUMP**



AIRTEX AUTOMOTIVE CORPORATION
FAIRFIELD, ILLINOIS

Dart Trucks

**HEAVY DUTY FOR
OFF THE HIGHWAY SERVICE**

—Specially Designed for—
Coal Mining—Iron Ore Mining—Copper
Mining—Pit and Quarry—Logging—Oil
Fields—Etc.
It Costs No More for Trucks Specially
Built to Fit Your Needs. Have Our Engi-
neers Visit and Analyze Your Operation.

DART TRUCK COMPANY
KANSAS CITY, MO.

**Get VAN NORMAN
Quality Salvage Work
on Cylinders, Cylinder
Heads, Blocks, Manifolds,
Clutch Plates, Valves,
Valve Seats, Pistons, Brake
Drums . . . Write**

**VAN NORMAN Machine
Tool Co., Springfield, Mass.**

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**Meets 1942
Conditions**



Eliminate Run Down Batteries for Low Cost Battery Maintenance. The new, improved, Valley—Guaranteed (two years) charger connects to the lighting circuit . . . is easy and economical to operate . . . no moving parts. Now it is easy and inexpensive to obtain long battery life by maintaining efficient battery charge. Model SG-12 charges 1 to 12 6 volt batteries.

NOW ONLY \$28.00



VALLEY ELECTRIC CORP.
4221 Forest Park Blvd., St. Louis, Mo.

(CONTINUED FROM PAGE 164)

Foster, Technical Section, Office of Civilian Defense. The "blackout kit" shown by Lieut. Foster included front marker and identification lights, rear marker and tail lights and a headlight casting a downward beam 100 feet ahead.

"Procurement of these kits," said Lieut. Foster, "may be accomplished only on authority granted by local, county or state defense councils or after I.C.C. has indicated that certain trucks can be classified as 'essential vehicles.'"

When equipped with blackout kits such "essential vehicles" will be permitted to keep moving in blackouts or during air raids. The Engineers Corps recommends a speed of 15 mph. for safety. Vehicles not so equipped must pull up to the side of the roadway, stop, extinguish all lights, and wait for the all clear signal before moving on.

Lieut. Foster said the blackout kit when approved for manufacture by the War Production Board would cost from \$10 to \$12.

At its business session the Safety & Operations Section of ATA elected W. Robert Smith, Pennsylvania Truck Lines, Inc., Pittsburgh, chairman; J. L. S. Snead, Jr., Consolidated Freightways, Inc., Portland, Ore., vice-chairman; Charles G. Morgan, Jr., ATA, Washington, D. C., secretary and the following directors, the numeral corresponding to the 13 ATA Regions:

1. D. J. Schechter, Consolidated Motor Lines, Inc., Hartford, Conn.
2. Charles E. Weldon, New York & New Brunswick Auto Express, Inc., New Brunswick, N. J.
3. George F. Callahan, Exhibitors' Service Co., Pittsburgh, Pa.
4. John Akers, Akers Motor Lines, Inc., Gastonia, N. C.
5. Harold Willings, Huber & Huber Motor Express, Inc., Louisville, Ky.
6. R. M. Pride, Decatur Cartage, Chicago, Ill.
7. Ralph Bell, Red Arrow Freight Lines, Inc., Houston, Tex.
8. Fred A. Miller, Park Transportation Co., St. Louis, Mo.
9. John A. Ebeling, Olson Transportation Co., Green Bay, Wis.
10. L. L. James, Rio Grande Motorway, Inc., Denver, Col.
11. O. R. Craven, Orange Transportation Co., Inc., Pocatello, Ohio.
12. R. H. Christensen, Southern California Freight Lines, Los Angeles, Cal.
13. William S. Lawrence, U. S. Truck Lines, Inc., Cleveland, Ohio.—G. T. H.

END

(Please resume your reading on P. 22)

STOP and HOLD

*Your Truck in
One Operation*



You're safe to stop up-hill or down-hill with **AUTOMATIC BRAKE CONTROL**. Makes an emergency brake out of your hydraulic brake system—holds on all four or six wheels. Will hold the heaviest load without slipping. Perfect, smooth chatterless getaway. Operates from button on dash. *Ask your dealer or write*

AUTOMATIC BRAKE CONTROL CO.
DELAWARE, OHIO

Save Pencil Work

Order and Sell

**CARTER
PARTS**



by the Package

Carter Carburetor Corporation

2820-56 North Spring Ave., St. Louis, Mo.

AUTOPULSE ELECTRIC FUEL PUMP

- Uninterrupted Schedules
- Instant Starting
- Greater Economy
- No Vapor Lock
- Added Protection



AUTOPULSE CORP., DETROIT

"A load behind is a trip ahead"

IMMEDIATE DELIVERY

on Open and Closed Top

TRAILERS AND CHASSES

National Sales—*Kingham*—National Service

KINGHAM TRAILER CO.

INCORPORATED
LOUISVILLE, KENTUCKY

**—More Profits
per Job with
HEIL**



Bodies and Hoists

Safe—dependable—complete line for all types of service. Ask for free catalog.

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Hoists — Bodies — Tanks — Road Scrapers — Snow Plows
Bottle Washers — Dehydrators — Oil Burners — Water Systems

FRINK SNO-PLOWS

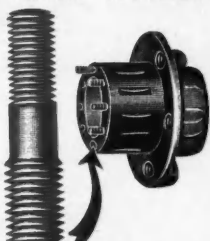
Both "V" TYPE and
ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS

Write for catalog 38AC and 38BC with discount to truck dealers.
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DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. Ltd., TORONTO, ONT.

OVERSIZE REAR WHEEL STUDS

for all
TRUCKS

Order
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CHAMP-ITEMS, Inc.
6191 Maple Ave.
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HICKMAN-BOSTROM

Level-Ride
TRUCK SEATS

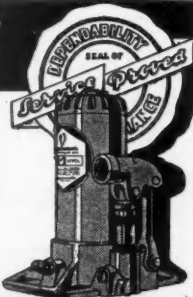
- No more cushion repairs
- Cuts driver fatigue
- Saves war materials
- The engineered ride
- Only \$17.85

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BOSTROM MANUFACTURING CO.
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SERVICE- PROVED

GRUELING years of
toughest service prove
Blackhawk Hydraulics su-
perior in safety, rugged
dependability and utility.
"Service - Proved" Seal
found only on Blackhawks.
Only complete line of
hydraulic hand jacks—14
models—1 to 50 tons
capacity.

BLACKHAWK MFG. CO.
Dept. J, 1162, Milwaukee, Wis.



BLACKHAWK

The complete line
that completely satisfies



Gasket craftsmen since 1906
The Fitzgerald Mfg. Company
Torrington, Conn.

QUIZ ANSWERS

(See questions on page 18)

1. a. The Liberty Truck. It was evolved through the cooperation of the truck manufacturers with the aid of the SAE. Although listed as a three-ton truck, it could carry up to five tons without strain. It had a four-cylinder engine and a 160-in. wheelbase. It weighed 8000 lb. without the body.

2. b. Verdun. Thousands of motor trucks, a large portion of which were of American manufacture, were rushed to the threatened sector.

3. b. The 287 odd styles and sizes were simplified to nine. The object was not so much the saving of rubber as the saving of labor.

4. b. Ford in December of 1915 chartered the Scandinavian vessel, Oscar II, and set out to bring peace to warring Europe.

5. d. In 1918, White, who was one of the largest suppliers of trucks to the Allies, decided to stop making passenger cars.

6. c. Packard.

7. d. 16,415 trucks. In the same period, U. S. shipped 335,793 horses and 84,598 mules.

8. d. The expedition against Villa. Although Europe had been preparing since 1907 by building trucks for war, the U. S. Army on June 30, 1914, owned but 62 motor trucks. Then "General" Pancho Villa raided Columbus, N. M. The United States sent a punitive expedition against the bandits. The Mexican railroads could not be commandeered without straining diplomatic relations to the bursting point. It was impossible to provide food for mules in a hostile, tropical, waterless waste. Trucks were the only answer, and within six weeks after the Villa raid, General Pershing was across the border with more than 300 motor trucks.

9. b. France. In November, 1915, the French government announced: "Hereafter all imported trucks will be 'run to destruction' and then replaced by domestic product. France announces its intention of using no further imported trucks in the war." Nevertheless, by the time the Armistice came along, there were 60,000 American-made trucks on French soil.

10. b. Over 900 of Paris' 1100 buses were immediately turned into meat trucks. Windows were boarded up, seats were removed, and quarters of beef were hung by hooks from the roof, and so fresh meat was hauled to the front. The remaining 200 buses were transformed into troop transports.

END

(Please resume your reading on p. 20)

Lubri-Zol Still Making Additives

The Lubri-Zol Corp., Cleveland, announces that the company will continue to make additives for petroleum products and that it has assigned only its interests in retail sales to the E. F. Houghton & Co., Philadelphia.

When You
Switch Tires
CHECK
BEARINGS, TOO

LINK-BELT ROLLER BEARINGS



Worn front wheel bearings interfere with wheel alignment—cause excess tire wear. Check and replace these bearings with Link-Belt—the bearing that provides perfect alignment and assures longer wear. Also for Differentials and Rear Axles.

Made by the makers of the famous Silverstreak Silent Timing Chain

LINK-BELT COMPANY
519 N. Holmes Avenue, Indianapolis, Indiana. Warehouses in all principal trading centers 8825



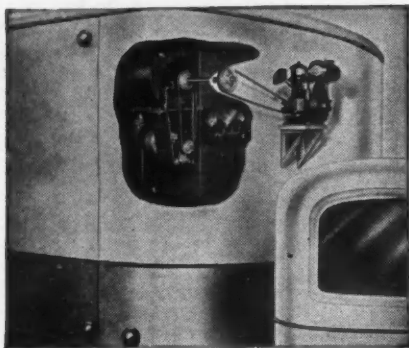
Heavy galvanized wire suspended from rings which slide on a round track. "Chain Link" weave as is used in best quality fence. Protects against theft and loss. Easy to open and close. Weave collapses within itself, saving space. Rigidly made for long, hard service, yet it is so light in total weight that average gate weighs only 90 lbs. Easily installed by owner's men. Satisfaction guaranteed. Quantity Discounts—Distributors Wanted.

ATLAS FENCE COMPANY
Richmond St. & Caster Ave., Philadelphia

For running-in new and
rebuilt engines, use auxiliary
lubricants containing—

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REG. U. S. PAT. OFF.
COLLOIDAL
GRAPHITE

Acheson Colloids Corporation
PORT HURON MICHIGAN



FOOL-PROOF REFRIGERATION!

Both D & G Types Use Ice & Salt

D & G SPRAY TYPE is recommended for hauling fresh meat, dairy products and other pre-chilled commodities.

D & G PRODUCE TYPE is recommended for hauling fresh fruit and vegetables, milk and other commodities loaded into the truck while warm.

Write for circular illustrating type of Refrigerator best suited for your purpose.

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OIL-SAVR

PISTON RINGS

The FREE RUNNING
Rings with the
SAFETY CENTER UNITS



POWER QUICK . . . and
IT LASTS!

See your Jobber or write
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BOWMAN PLASTIC LENSES



withstand hard usage. Dropping, knocks, swinging tail-gate chains won't break them. They combine flexibility with high grade lens service. Not effected by temperature—red or amber. Color will not fade.

FREE Sample immediately upon request to Fleet Operators and Jobbers.

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FOR BETTER BODIES

SUPERIOR GALVANNEAL is a quality steel sheet with a specially heat-treated zinc coating. It "takes and holds" fine finishes.



SUPERIOR SHEET STEEL CO.
Canton, Ohio

NEWSCAST

(CONTINUED FROM PAGE 46)

Postponed Delivery Restrictions

The effective date of the recent Office of Defense Transportation order placing certain restrictions on local delivery services was postponed from May 15 to June 1.

Cubbins in Army Now

Wm. R. Cubbins, Jr., formerly with the Trailer Co. of America, has joined the Motor Transport Division of the Quartermaster Corps as production analyst. At present he is stationed at Ft. Wayne, Detroit.

WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 19)

back in this department that some dealers were evading truck rationing by taking title to the trucks in their possession and making use of them on a lease basis. The Allocations Section looked upon this as a subterfuge and sought an opinion from its legal department. The opinion is that a dealer with new trucks in stock cannot put them to use unless he applies for and receives from ODT a PD310 release. Use without such a release constitutes a violation of the rationing order and subjects the dealer to its penalties.

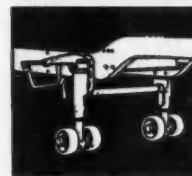
New Truck Tire Quota Up

Anticipating an increase in tire failures during the hot summer months the Office of Price Administration has given trucks a June quota of 247,715 new tires which is slightly larger than the May quota of 238,259 new tires. The June quota also includes 365,014 recaps and 309,116 tubes, compared with the May quota of 379,060 recaps and 328,836 tubes. When the figures are added up the June quota is a little less than 1 per cent under May. Beginning with May, tire rationing boards were ordered not to release new tires to List A vehicles if the use of a recap was practical. And starting June 1 no tires at all will be released to anyone who abuses those he now has in use.

FTC Goes After Gas Gadgets

The Federal Trade Commission is said to be cracking down on gas-saving gadgets. Claims of saving huge quantities of gas with no loss of power and no increased maintenance

AUSTIN THE ACCEPTED STANDARD . . .



A complete line of **LANDING GEARS . . .** HORIZONTAL, VERTICAL and FOLDING TYPES.

Write for complete information on "SAFETY PROPS" and FIFTH WHEELS.

AUSTIN

TRAILER EQUIPMENT COMPANY MUSKEGON MICHIGAN

Step Up Truck Capacities, with

GRICO

2-AXLE DRIVE

19842 W. Eight Mile Rd.
Detroit, Michigan

VITAL TO—

- Low Mileage Costs
- Easy Operation
- Maintained Schedules



SKF

BALL AND ROLLER BEARINGS

For information on

SHULER AXLES

see advertisement in the

May issue



OVER 70% OF ALL
MAKES OF TRUCKS
AND BUSES ARE

Zollner EQUIPPED

ZOLLNER

HEAVY DUTY PISTONS

ZOLLNER MACHINE WORKS FORT LAYNE, IND.

**FLYWHEEL
RING GEARS**
Send us
your specifications
for quotation.

Wohler
CORPORATION
LANSING, MICH.

PROUDLY PRODUCING
SINCE 1904
EXPERIENCE

Specify . . .

XACTO Printing Pump
To Check Fuel Deliveries
at the Pump

AKRAFLO Fuel Consumption
METER to Check
Fuel Consumption at the Motor
S. F. BOWSER & CO., INC.
1360 Creighton Ave.
FORT WAYNE, INDIANA

KINNEAR ROLLING DOORS FOR TRUCKS

Save space! Open upward!
Coil out of way. Always
safe from wind. Can't
joggle open! Less chance
of damage to doors. All
Metal. Fireproof! Prevent
thefts. Write for details.

The **KINNEAR MFG. CO.**
2100-20 FIELDS AVE., COLUMBUS, OHIO

FOR BUILDINGS — the recognized leader

? DO YOU KNOW ?

... what motor oil has been used
by Pan American Clippers for over
13 years and more than 900
million passenger-miles?

WOLF'S HEAD

100% Pennsylvania 35c a quart
Wolf's Head Oil Refining Co. Oil City, Pa.

LET US rebuild your Chev-
rolet or Ford truck for
heavier duty or special ser-
vice.

We have the experience,
the equipment and the fa-
cilities in our nation-wide
distributor organization.

TRUCKSTELL Inc.
CLEVELAND

expense are being investigated and
contested.

Amendments to ODT Orders

The ODT has postponed the effective date of certain limitations in General Orders 3, 4, 5 and 6 and amended others. The provision prohibiting operation of trucks in over-the-road deliveries unless loaded to 100 per cent capacity going one way and 75 per cent on returns has had its effective date extended from June 1 to July 1.

The provision extending jurisdiction of the local delivery order to 15 miles beyond the corporate limits of a municipality has been amended to extend that limit to 25 miles.

Newspapers have been granted a reprieve in that the one-a-day delivery requirement has been modified to permit the choice of several alternate plans. One plan sets a limit on the number of deliveries a newspaper may make, the number to be determined on the population of the area served and also requires a 25 per cent reduction in delivery mileage. The other plan sets no limit on the number of deliveries on the same day but requires a 40 per cent reduction in mileage.

Under the first plan, papers serving a population of less than 200,000 will make one delivery a day; papers serving 200,000 to 700,000 can make two deliveries daily; three deliveries for 700,000 to 2,000,000 population; over 2,000,000, four deliveries. Figures of the U. S. Bureau of Census series PH-1 must be used in determining population areas.

Under the coal truck amendment solid fuel delivery mileage in any one month must show a cut of 25 per cent compared with average monthly mileage per ton delivered in 1941.

END

(Please resume your reading on P. 20)

Brake Service Guide

The fourth edition of the "Raybestos Brake Service Guide" has just been published by the Raybestos Division, Bridgeport, Conn.

Included in this 1942 issue are such features as detailed diagrams and adjustment and maintenance information for all passenger car, truck and bus brake and braking systems; handy trouble shooting chart; basic fundamentals of brake service; quick reference index, etc.

Priced at 25 cents a copy, the Raybestos Brake Service Guide is being supplied free to Raybestos dealers through their distributors.

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You can save and still buy quality when you specify "Dandux." Precision craftsmanship and finer materials are your assurance of extra service and value in Dandux Canvas Products.

The major portion of our expanded facilities are now devoted to the canvas requirements of America's Armed Forces, and Uncle Sam comes first. However, and we pledge the supply of all requirements to the best of our ability, subject of course, to existing regulations.

C. R. DANIELS, INC.
Manufacturers of Everything of Canvas.
101 Crosby St., New York, N. Y.

Newark • Boston • Buffalo • Chicago
Cleveland • Detroit • Hartford • Milwaukee
Philadelphia • Pittsburgh • Alberton, Md.

**"SPEED WASH" FOUNTAIN
BRUSH CUTS WORK IN HALF**

Eliminates all waste motion. Soaks, scrubs, and rinses in one operation. Users throughout the country. Fully guaranteed. Money refunded if brush is returned in 5 days. \$9.45 postpaid, if cash accompanies order.

MILWAUKEE DUSTLESS BRUSH CO.
526 N. 22nd St. Milwaukee, Wis.

Available Trucks

Builders of fine Motor Trucks, Tractors, Trailers and Buses since 1910.

Capacities from 1½ to 10 tons.

Write for bulletin

AVAILABLE TRUCK COMPANY

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Chicago, Illinois

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Tyson

ROLLER BEARING CORP.

MASSILLON, OHIO

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